Computerwise Consulting Services
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Joan Riff's CB Simulator For PC Networks
(Version 1.6)

A groupware communications medium which allows users to conduct multi-party simultaneous conferences via PCs which are connected to the same network.

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Typography

In this document, the following typographic conventions are used:

Normal	Normal text is used for the body of the document.
CB	The name of this program is always printed in bold italics, to distinguish it from the generic term for Citizen's Band radio.
`AUTOEXEC.BAT`	Computer-generated things like filenames are printed in Courier type, to avoid confusion with standard English words.
`copy *.* b:`	Things typed at the keyboard are printed in bold Courier.
emphasis	Simple italics are used for emphasis, and to introduce new terms for the first time.
{Alt-H}	PC keypresses are shown as key names within braces.
`ASCII`	The actual contents of files are printed in small Courier. They are printed in Courier in order to achieve fixed character spacing, which is how you would see the contents on a computer screen or listing. They are small in order to fit 80-character lines well within the margins of the printed page, without causing an artificial line wrap which does not exist in the data itself.

CB Registration Order Form

From: ______________________________

____

____

____

____

Requested Item	Quantity	Unit Price	Total
CB Registration: 1 user for 1 year		20.00	
CB User's Guide (this document)		40.00	
Other CCS Products (specify):			
		Total order	
		Virginia Residents add 4.5% tax	
		Amount due	

Mail to: CB Registration
Computerwise Consulting Services
P.O. Box 813
McLean, VA 22101

Figure 2: *CB* Registration Order Form

Registration of this Software

This program will only run properly when it detects the presence of a valid registration serial number. This prevents the use of this program by folks who haven't paid for it. Shareware, after all, means "Try it *before* you buy it", not "Try it, like it, and keep using it *without* paying for it".

Registration serial numbers may be obtained from CCS for the price of $20 per user per year. Orders may be placed with CCS at the following address:

> CB Registration
> Computerwise Consulting Services
> P.O. Box 813, McLean, VA 22101
> (703) 450-7175

Be sure to indicate the number of registrations desired (@ 1 per user), and to include payment for each such registration. The attached order form (see Figure 2) may be copied and used for this purpose.

Once a registration serial number has been obtained from CCS, it may be specified to this program in one of three ways:

- Via a "**`Registration=xxxxxxx`**" command in each user's personal `CB_USER.CFG` configuration file. See "**Configuration Files**" in the next chapter.
- Via a "**`CBSERIAL=xxxxxxx`**" DOS environment variable. See "**DOS Environment Variables**" in the next chapter.
- Via a "**`–#xxxxxxx`**" command-line flag provided on the command line when the program is run. See "**Command-line Flags**" in the next chapter.

Remember — *each* user of this program needs to pass to ***CB*** his own personal registration serial number in order to be able to talk to other ***CB*** users.

> You may install as many copies of this software as you like. You may make backup copies of this software, because it is not copy-protected. In short, you are not constrained in any way from performing prudent software installation, distribution, or backup with this product, as any responsible network administrator will no doubt do with all network software that he owns. The only restriction is that *each user* must have *his own* individual serial number as described above.

window	A *window* is a boxed portion of the screen which displays data for one channel. The upper portion of the window displays messages which have been *received* on that channel, and may be scrolled backwards to view messages which have disappeared off of the top of the window. The lower portion of the window is a single line, and holds the current line which is being prepared for *transmission* on that channel. This is the *transmit line*. You may have multiple windows on the screen at one time, each monitoring a different channel.
window title line	The *window title line* is the top line of the box which surrounds a *window*. This line is used to identify the channel with which this window is associated.

Installing Joan Riff's CB Simulator on a Network

Before it can be used, ***CB*** must be installed on a network by the network administrator. Because ***CB*** is a network "groupware" application, its installation is somewhat more involved than is necessary for a stand-alone program. Nevertheless, its installation can be reduced to the following simple steps:

1) Obtain one registration serial number from Computerwise Consulting Services for every network user that you want to have access to ***CB***. See "**Registration of this Software**" (below) for detailed information about the registration process.

2) Create a directory somewhere on a network drive to which all potential users will have access. Use your network's administrator utility to give all users *full* access to this directory. All users must be able to search this directory for files, create files under this directory, and read/write all files under it.

3) Copy the following ***CB*** files to some directory on the network which is in every user's search path:

`CB.EXE`	The executable program itself.
`CB_SITE.CFG`	The site-wide configuration file.
`CB_USER.CFG`	A sample user-specific configuration file.
`CB.HLP`	The Online Help Facility text file.

4) Edit the `CB_SITE.CFG` file (which you just created in step 3) to reflect your own site-wide preferences. It is especially important that you change the "`Directory=`" parameter so that it names the network directory that you created in step 2. Be *sure* to include the trailing `'\'` character in this directory name!

5) Using the registration serial numbers obtained from CCS, you must install each ***CB*** user using *one* of the following techniques (it's your choice):

   a) You can create a unique batch file for every user (`CB_BOB.BAT`, for example), and store it in a network directory which is in every user's search path. Each such batch file should invoke ***CB*** with command-line flags which specify this user's serial number and handle. See "**Command-line Flags**" in the next chapter.

   b) You can copy the sample `CB_USER.CFG` file (created in step 2 above) to a directory which appears in this user's DOS search path *prior* to any other directories, and then edit that file to contain this user's individual serial number and handle. This will cause ***CB*** to automatically find this file and obey the parameters contained in it. See "**Configuration Files**" in the next chapter.

   c) You can edit each user's AUTOEXEC.BAT file on his boot disk to set his serial number and handle via DOS *environment variables*. See "**DOS Environment Variables**" in the next chapter.

The program is now ready to be used. Installation is complete.

message

A *message* is a single line which is transmitted over a channel. The transmit line at the bottom of the current window holds the message which is currently being constructed for transmission. When you press the **{Return}** key to transmit the message, then the message is transmitted and the transmit line is cleared to start a new message. Received messages are identified on the left with the handle of the person who transmitted the message, so that you can keep track of who says what when many users are on the same channel.

registration

Each user of this software product must be *registered* with CCS in order to comply with the copyright, and to ensure that this software is used only by users who have legally purchased the right to use it. The process of *registration* is fully described in "**Registration of this Software**" below, and in other places where the use of *registration serial numbers* is discussed.

transmit line

The *transmit line* is the one-line subwindow at the bottom of a screen window. This space holds the single line which is being prepared for transmission over that window's channel. All keypresses which are not ***CB*** commands are stored in this line for eventual transmission over the channel when you press the **{Return}** key.

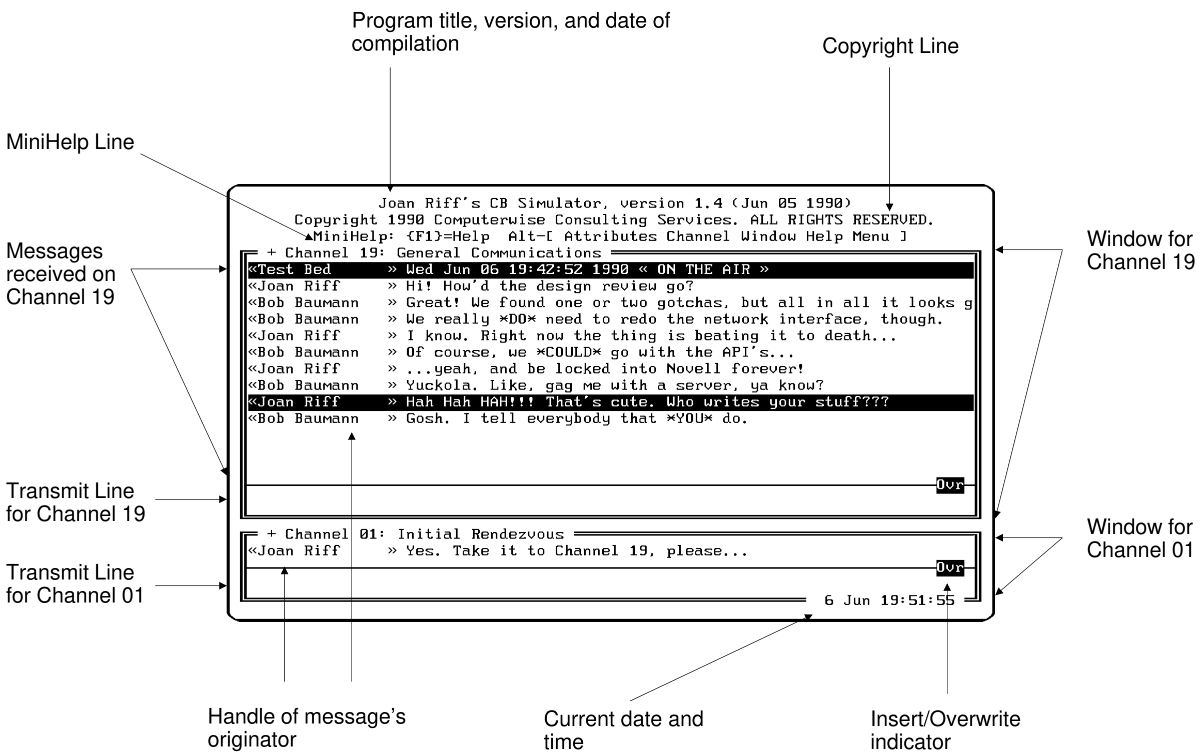

Figure 1: Terminology and the main *CB* screen

- Messages may be *scrambled* with a password in order to obtain a measure of privacy.
- Messages may have *attributes* attached which cause them to beep and/or be displayed in an alternative color when received.
- Messages which have scrolled off of the top of the window may be *reviewed* by scrolling backwards and forwards through them.
- *Context-sensitive help* is always just a single keypress away.
- Operation is configurable via *configuration files*, *environment variables*, and *command-line flags*.
- Individual users may be filtered out (*disabled*), so that irrelevant messages don't clutter your screen.
- This software runs on *any network* which provides multi-user access to a DOS directory — it is not dependent upon any specific network.
- Up to 50 distinct handles (hence users) may be "on the air" at one time. The practical upper limit depends upon the efficiency of your network.
- All of the PC's free real memory is used to hold incoming messages.
- Common operations are handled immediately from the main screen, making ***CB*** very easy to use.
- Advanced operations are handled from within a *pulldown menu interface* which allows you to navigate through all applicable choices before committing yourself.
- A revolutionary new approach to software registration protects this software against unauthorized use, while giving registered sites unrestricted access to the software.

CB Terminology

This section introduces terms which apply to this software product. Please refer to Figure 1, which applies these terms to the main ***CB*** display screen.

channel	A *channel* is a medium of transmission. The use of channels serves to compartmentalize communications, in that what is transmitted over one channel can only be received by users who are monitoring that channel. Each window on the screen has a title line which describes the channel with which that window is associated. There are 19 simulated channels available to the user of ***CB***.
channel name	A *channel name* is the name associated with a channel. Channels are named via parameters in the ***CB*** configuration files (see "**Configuration Files**" in the next chapter). A channel name is displayed in the *window title line* at the top of each screen window, showing the channel with which that window is associated. Channel names are also used as an informal, site-specific guide to their use.
conference	A *conference* is the sum total of all messages that are transmitted by all users on a particular channel. It is called a conference because in terms of what is said and heard it is exactly as if all participants were in the same room and would hear whatever is said by any single participant, whereas users of other channels would not be heard.
current window	The *current window* is the window into which you are typing. It is highlighted on the screen to differentiate it from any other windows which may be on the screen. When you press the **{Return}** key to transmit a message, that message gets sent over whatever channel is associated with the current window.
handle	A *handle* is the name by which the user wants to be known to his CB audience. It can be anything at all: a real name, a nickname, initials, or whatever. It may be up to 16 characters long. Every received message is identified on the left by the handle of the transmitter of that message.

Introduction and Installation

About CB Radio Itself

This section provides a brief overview of CB radio, for those users who may not have been part of the CB craze which swept this nation back in the late 1970's. This short technical discussion is necessary in order to make clear the analogy between real CB radio and this software package.

Citizen's Band (CB) radio exists to allow the average American to use the radio waves without having to become a communications expert. A CB radio is simple to use, and allows many people to carry on a simultaneous conversation over the airwaves.

Using a CB radio is as simple as:

- Turning on the radio.
- Selecting one of the 19 available radio channels[1].
- Speaking into the microphone.

Whatever you say into the microphone is immediately heard by everybody else who has a CB radio which is tuned to the same channel. By the same token, you can hear what is said by everybody else who is transmitting on your channel.

What is Joan Riff's CB Simulator?

Joan Riff's CB Simulator for PC Networks (hereinafter referred to simply as ***CB***) is a software product for use on PCs that are connected to a local area network. Simply stated, ***CB*** is the digital equivalent of a CB radio. ***CB*** allows users of a network to carry on a multi-party simultaneous conversation, or *conference*.

Operation is simple: the user simply types lines of text. Every line that the user types appears on the screen of every ***CB*** user, and lines typed by all other ***CB*** participants appear on the user's screen.

CB Capabilities at a Glance

This CB simulator provides the following features:

- Any of 19 simulated CB *channels* may be used.
- Multiple *users* can be transmitting on a channel at one time.
- Multiple *windows* can be on the screen at once, each associated with one channel.
- Each user has his own *handle* by which he is identified, and which gets attached to his messages.
- Incoming messages can be *logged* to a Logfile.
- ASCII files may be *transmitted* across a channel as if typed by a user.

1 Of course, modern CB radios support 23, 40, or even more channels. This technical detail is not important to the subject at hand, since 19 channels are more than adequate for our purposes here.

```
**********************************************************************
*
* This is the configuration file for an individual user. This should
* be placed in the user's DOS search path such that it will be found
* when the program is run by this user and no other.
*
* This file should define user-specific items like the user's
* registration number, his handle, etc. It should not define those
* things which are site-wide, like the channel assignments, the
* refresh rate, etc.
*
* Items in this file will override corresponding items in the
* site-wide configuration file "CB_SITE.CFG".
*
**********************************************************************

*
*         Set the following to your own individual registration number.
*         In order for the program to provide full functionality, every
*         user of CB must have his own individual registration serial
*         number.
*
*         Such registration numbers may be obtained from CCS at:
*
*                   CB Registration
*                   Computerwise Consulting Services
*                   P.O. Box 813
*                   McLean, VA 22101
*                   (703) 450-7175
*

Registration=10G3-CB67GD.R18

*
*         Set the following to the handle that you want to be known by
*         on the air. Every message that you send will have this handle
*         attached to it.
*

Handle=Joan Riff

*
*         If desired, set the following to the name of the default
*         file to be used as a Logfile.
*

Logfile=.\CB.LOG

*
*         The following can be set to "Yes" or "No" to allow or suppress beeps
*         and things.
*

Sound=No
```

Figure 5: The user configuration file CB_USER.CFG

```
**********************************************************************
*
* This is the configuration file for the entire site. This should
* be placed in the system's DOS search path such that it will be found
* when the program is run by any user. The best place to keep this
* file is in the same directory as the executable program CB.EXE.
*
* This file should define site-wide items like the default channel
* assignments, the default refresh rate, etc. It should not define
* those things which are user-specific, like a registration number.
*
* Items defined here can be overridden by corresponding entries in
* each user's individual configuration file "CB_USER.CFG".
*
**********************************************************************

*
*         The following defines whether the introductory copyright screen
*         will be displayed until you press a key. Note that this only
*         applies if this is a registered copy of the software. If there
*         is something wrong with the registration number, then the
*         initial copyright screen will be displayed (explaining the
*         problem) regardless of the setting of this variable.
*

Copyright=No

*
*         Set the following to the number of seconds between checks
*         for new messages. If you are running on a fast network, then
*         make this number small (say 1 or 2). If your network is
*         slow, then bump this up to 4 or more.
*

Refresh=1

*
*         Set the following to the DOS command which is used to page
*         a network user who is not currently on CB. Use "\N" in
*         this line for any place where the network name of the paged
*         user should appear.
*

Page=SEND "You are wanted on the CB!" TO \N NUL

*
*         Set the following to the name of a network directory under
*         which CB should look for its files. This directory must be
*         accessible to all users of CB, and everybody should have
*         full permissions to this directory and all files under it.
*         This MUST include the trailing '\' character! *

Directory=f:\sharedir\cb\

*
*         Names of (and implied uses for) the various CB Channels.
*         Change these to whatever is meaningful to you.
*

Channel 01=Initial Rendezvous
Channel 02=Unassigned
Channel 03=Unassigned
Channel 04=Unassigned
Channel 05=Unassigned
Channel 06=Unassigned
Channel 07=Unassigned
Channel 08=Unassigned
Channel 09=Emergency Communications
Channel 10=Unassigned
Channel 11=Unassigned
Channel 12=Unassigned
Channel 13=Unassigned
Channel 14=Unassigned
Channel 15=Unassigned
Channel 16=Unassigned
Channel 17=Unassigned
Channel 18=Unassigned
Channel 19=General Communications

*
*         The following can be set to "Yes" or "No" to allow or suppress beeps
*         and things.
*

Sound=No
```

Figure 4: The site configuration file CB_SITE.CFG

Registration=xxxxxxx Specifies your personal registration serial number. Each user must have his own distinct serial number, as provided by CCS. This number may be specified here, in the DOS environmemt variable `CBSERIAL`, or on the command line that invokes ***CB*** as the command-line flag "**–#xxxxxxx**". The program will not be fully functional until and unless a valid such number is presented to it through one of these methods.

Sound=Yes | No Specifies whether sound is to be used (**Yes**) or suppressed (**No**).

The Copyright Screen

Unless you have asked that the copyright screen be suppressed (see "**Copyright=**" above), ***CB*** always displays its copyright screen when it begins execution. This screen (see Figure 3 below) remains displayed until you press **{Return}** to clear it and begin simulation. This screen will also be displayed regardless of the "**Copyright=**" setting if there is anything wrong with the registration serial number. Assuming that this is a properly registered copy of this software, the top line shows how many months are left until the registration expires.

This screen explains our rights under federal copyright law. Please do not attempt to circumvent the conditions which are explained in this screen, for CCS will vigorously defend its copyright in order to keep this software from falling into the public domain.

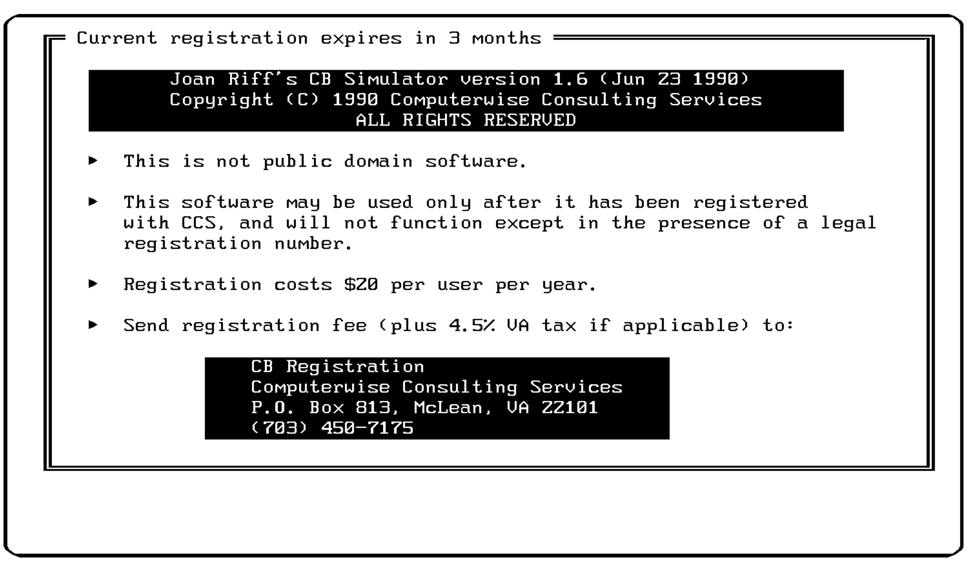

Figure 3: The *CB* copyright screen

Directory=xxxxxxx Specifies the name of a network directory under which this program is to create its temporary message files, and under which it will look for other users' traffic. This is the same directory which was created in Step 2 of the installation sequence presented in the last chapter. This must be a complete network path, *including* the trailing '****' character. A failure to specify the name of an existing directory will cause an error when the program tries to establish its network connection.

Handle=xxxxxxx Specifies the CB handle that you will be known by. Each user should have a distinct handle, although (as with a true CB radio) this is not enforced. This handle may be specified here, in the DOS environment variable `CBHANDLE`, or on the command line that runs CB as the command-line flag "**–hxxxxxxx**".

Logfile=xxxxxxx Specifies the default name to be used for the Logfile, to which incoming messages are written when Logging is turned ON. You are given the chance to explicitly specify the name of the file to be written. This item exists just to provide a convenient default.

Page=xxxx Specifies the DOS command which is to be used to *page* somebody on your particular network. When you ask this program to page somebody, it will pass to DOS the command which you have specified here. You reserve space in the command for the user's network name by inserting the reserved string "**\N**". This will be replaced with the name of the user that you are paging.

On a Novell network, for instance, you can page somebody using the Novell-supplied program `SEND`. So your entry could read as follows:

Page=SEND "You're wanted on CB!" TO \N

Note that the string "**xxxx**" may contain embedded *escape sequences* for those characters which can't easily be entered from the keyboard. These are translated by ***CB*** before the string is passed to DOS for execution. These escape sequences are as follows:

\r	becomes a Carriage Return
\n	becomes a Line Feed
\b	becomes a Backspace
\t	becomes a Tab character
\f	becomes a Form Feed
\xFF	becomes a byte with the hexadecimal value **FF**
\000	becomes a byte with the octal value **000**

This **Page=** variable is merely a convenience, useful only if you want this program to do the paging for you. You could accomplish exactly the same effect by issuing the appropriate DOS command yourself from within this program.

Refresh=n Specifies the number of seconds between checks for new messages. The argument n may be from 1 to 29. The smaller the number, the more responsive the program will be to new traffic, at the expense of increased disk activity. A larger number will mean that more time may elapse between the time that a message is posted and it appears on your screen, but the program will pay more attention to your keyboard and will place less of a burden on your network.

`CB_SITE.CFG`	This is the site-wide configuration file, which defines parameters which apply to all users on the network. Figure 4 is an example of such a file.
`CB_USER.CFG`	This is an individual user's configuration file, which modifies ***CB*** according to the individual user defined by this file. Figure 5 is an example of such a file.

Neither file is absolutely required, although you are strongly encouraged to have at least the site configuration file `CB_SITE.CFG`.

Configuration File Commands

Each line of these configuration files is of the form `Keyword=Value`. The left side of the equation (up to and including the equals sign) is a literal which must be entered *exactly* as shown, including upper- and lower-case characters and embedded spaces. The right side of the equation is set by you. There are various types of entries, which are shown in the following examples as follows:

`xxxx`	The string "**`xxxx`**" stands for any string of your choice.
**`Yes	No`**	One value must be entered, either "**`Yes`**" or "**`No`**".
`n`	A number must be entered.

The various literal keywords which are recognized are as follows:

`Channel 01=xxxx`
`Channel 02=xxxx`
`Channel 03=xxxx`
`Channel 04=xxxx`
`Channel 05=xxxx`
`Channel 06=xxxx`
`Channel 07=xxxx`
`Channel 08=xxxx`
`Channel 09=xxxx`
`Channel 10=xxxx`
`Channel 11=xxxx`
`Channel 12=xxxx`
`Channel 13=xxxx`
`Channel 14=xxxx`
`Channel 15=xxxx`
`Channel 16=xxxx`
`Channel 17=xxxx`
`Channel 18=xxxx`
`Channel 19=xxxx` These entries specify the names for simulated CB Channels 01 to 19. The various channels have no preassigned uses, other than the convention that Channel 01 is used for the initial rendezvous between two users that have not agreed beforehand on a channel to meet on. You may use these variables to assign names to the channels, and thereby to establish site-wide conventions for their use.

`Copyright=Yes | No` Specifies whether the copyright screen is to remain on the screen (**`Yes`**) or is to be cleared (**`No`**) at program startup. If there is anything wrong with the registration serial number, then this screen is presented regardless of the setting of this variable.

```
SET CBHANDLE=xxxx
SET CBSERIAL=xxxx
```

The purpose of these variables is to specify your individual serial number and handle so that ***CB*** can locate them when it begins execution. If you set these variables in the `AUTOEXEC.BAT` file of your system's boot disk, then you can just run the program directly via the DOS command "**`CB`**", without having to have an individual batch file created for you just to specify these things via command-line parameters.

Searching for Files via the DOS "PATH"

CB uses auxiliary files (the configuration files, its Online Help file) for various purposes. When the program searches for these files, it does so by looking *first* in the current DOS directory, and *then* in every directory that is defined in the DOS `PATH` environment variable. This series of directories is sometimes known as the DOS *search path*. Your DOS manual describes how to set and use this environment variable.

When ***CB*** enters execution, it searches the DOS search path for an ASCII text file named `CB_SITE.CFG`. This file — if found — is used to initialize various configuration variables used by ***CB*** as it executes. This file is meant to hold site-wide settings, which serve as defaults.

After searching for that file, ***CB*** then searches for a similar file called `CB_USER.CFG`. This will typically reside within an individual user's own disk space, and is used to further customize ***CB***'s operation. Any values which are defined in this file will override the defaults that were specified in `CB_SITE.CFG`.

Lastly, ***CB*** searches for a file named `CB.HLP`, which holds the text of the Online Help screens.

It is important to remember that the search for these various files procedes through all directories in the `PATH` string *in the order in which they appear*. Assume that the `PATH` string has been set as follows:

```
PATH=c:\bin;c:\mystuff;f:\cb_stuff
```

Now assume that there are three files named `CB_USER.CFG` in three separate directories:

```
F:\BBAUMANN\CB_USER.CFG
C:\BIN\CB_USER.CFG
F:\CB_STUFF\CB_USER.CFG
```

The file at `C:\BIN\CB_USER.CFG` is the one that will be found and used by ***CB***.

If you meant the file at `F:\BBAUMANN\CB_USER.CFG` to be the one to be used, then that's tough. The directory `F:\BBAUMANN` isn't even in the DOS search path, so it will not be searched (unless it just happens to be the current DOS directory).

If you meant the file at `F:\CB_STUFF\CB_USER.CFG` to be the one to be used, then that's tough too. Once ***CB*** finds the file that it's looking for (in this case, the file at `C:\BIN\CB_USER.CFG`), it stops looking. This, by the way, is very useful when you want to *override* the file at `F:\CB_STUFF\CB_USER.CFG` by having the program use the one at `C:\BIN\CB_USER.CFG` instead.

Please remember this when setting up your own files. Make sure that you place them so that the above-described search will find the proper files in the proper order.

Configuration Files

The behavior of ***CB*** can be modified by commands contained in two *configuration files*:

-o Suppresses the loading of the Online Help file CB.HLP. This will save the memory normally occupied by that file, thus increasing the amount of memory available for holding incoming messages, or for DOS commands which you may want to run. This also means, of course, that Online Help will be unavailable to you.

filename Any command-line flag which does not start with a '**-**' (hyphen) is assumed to be the name of a configuration file which is to be processed. Such files are processed after the CB_SITE.CFG and CB_USER.CFG configuration files, so any variables set from such files will override prior values.

For example, you may start the program *and* specify your CB handle at the same time with:

CB -hMyHandle

None of these flags are required. They exist as a convenience for your network administrator, so that he may create a batch file that will make operation of this program easier for you. For example, the following DOS batch file might be useful for a site which stores individual ***CB*** configuration files under each network user's home directory on drive F:

F:\BIN\CB.EXE F:\%1\CB_USER.CFG

If your network name is BBAUMANN, for example, and your home directory on the network is F:\BBAUMANN, and the above batch file is named CB.BAT, then you could start the program by typing

CB BBAUMANN

This would cause ***CB*** to automatically locate and obey your own individual configuration file located at F:\BBAUMANN\CB_USER.CFG, from which it would read your handle and your registration serial number.

Normally, of course, you wouldn't want to have to enter such command-line flags every time that you run the program. These command-line flags are useful because they can be incorporated into individual batch files, one for each user of ***CB***.

DOS Environment Variables

An alternative (and preferred) way to pass an individual's serial number and password to the program is to set up two DOS environment variables which ***CB*** checks for when it runs. This can eliminate the need to build individual batch files which specify this information via command-line flags.

The following DOS environment variables may be used to pass information to this program:

CBHANDLE=xxxx Sets your ***CB*** handle to the name **xxxx**. This will override any handle specified in a ***CB*** configuration file, but will itself be overridden by the command-line flag "**-hxxxx**" (if provided to this program when it is invoked).

CBSERIAL=xxxx Sets your personal registration serial number to **xxxx**. This will override any serial number specified in a ***CB*** configuration file, but will itself be overridden by the command-line flag "**-#xxxx**" (if provided to this program when it is invoked).

These may be set in your system's AUTOEXEC.BAT file (or from the DOS command line) with the following commands:

Starting CB

> NOTE: This chapter describes several ways that the ***CB*** program may be started. Much of this information is useful only to your network administrator as he installs the product. He may decide to install the product in a manner which may render obsolete some of the information in this chapter, so check with him for details about the way that he has set up *your* individual use of the product.

Invoking CB

Once ***CB*** has been installed on your network, running it is as simple as typing "**CB**" at the DOS prompt. If your network administrator has installed a custom batch file for your use, then instead of typing "**CB**" you would type the name of whatever batch file he created for you.

The rest of this chapter explains technical details which would normally be of interest only to your network administrator. Nevertheless, advanced users may also find this information to be of interest.

Command-line Flags

The DOS command line which invokes this program will of course begin with the name of the program ("**CB**"). It may also contain optional parameters which are specified after the program name. These are called *command-line flags*, and they can be used to modify the program's behavior.

The following flags may be given on the command line which invokes ***CB***:

–hxxxx Sets your ***CB*** handle to the name **xxxx**. This will override any handle specified in a ***CB*** configuration file *and* in the environment variable `CBHANDLE`. If there are blanks in your handle, then be sure to quote the entire flag like this:

"–hCrazy Ivan!"

If you don't quote it, then ***CB*** will treat each word as a separate flag, and in this example would see the two flags "**–hCrazy**" and "**Ivan!**" — which is not exactly what you want.

–#xxxx Specifies your registration serial number. This will override any serial number specified in a ***CB*** configuration file *and* in the environment variable `CBSERIAL`. It must be specified *somewhere* (in one of these three places) before the program will become fully functional.

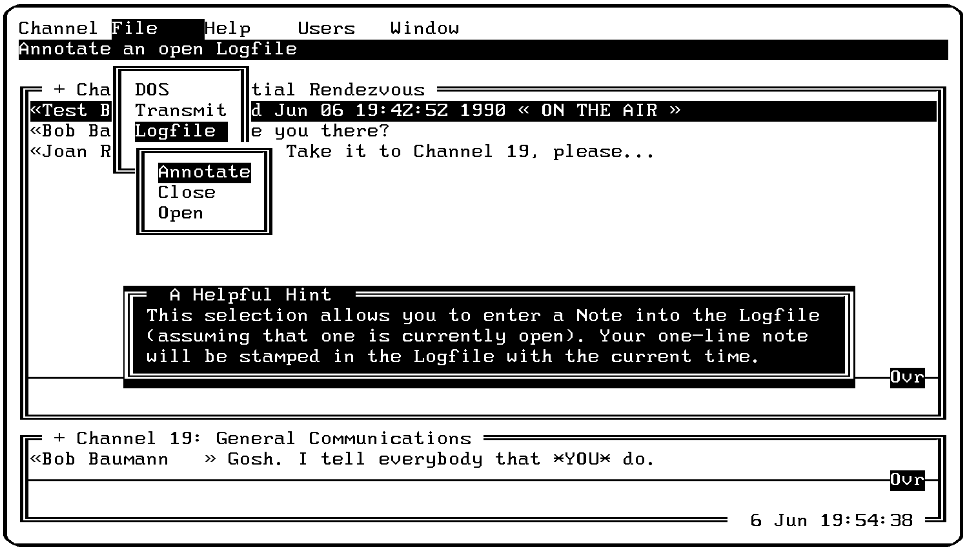

Figure 12: {F1} context-sensitive help for a menu choice

to the right. Now that long message from Mikey becomes fully visible, and the handles have disappeared. Many users prefer to keep their windows permanently scrolled 16 columns to the right, and only scroll back if they need to identify the author of some specific message.

<u>Context-Sensitive Help: The {F1} Key</u>

If you are ever uncertain about some aspect of ***CB*** then just press **{F1}** (Function Key number 1 on the PC keyboard). The **{F1}** key is interpreted as a request for help. When pressed, it does one of two things depending upon what's going on when it is pressed (that is, depending upon the *context* within which help was requested):

1) If you are seeing the main ***CB*** screen (i.e. — you are not in the middle of a command or a question), then pressing the **{F1}** key will give you access to the full Online Help facility. This is a series of screens which explain various facets of this program. You may page forward and backward through these help screens with the following keypresses:

{Up}	Scrolls the text up one line.
{PgUp}	Scrolls the text up one screen.
{Down}	Scrolls the text down one line.
{PgDn}	Scrolls the text down one screen.
{Home}	Goes to the very first screen of Online Help.
{End}	Goes to the very last screen of Online Help.
{Escape}	Exits Online Help.

Figure 11 shows a sample screen from this Online Help facility.

2) If you are being prompted for some input, or are pointing to some Pulldown Help Menu item, or have been shown some error message, then pressing the **{F1}** key will elicit a hint as to what is required or meant by the prompt or message. This hint will disappear by itself with your next keypress. Figure 12, for example, shows a hint being displayed because the user pressed **{F1}** while the Pulldown Menu choice for annotating the Logfile was highlighted.

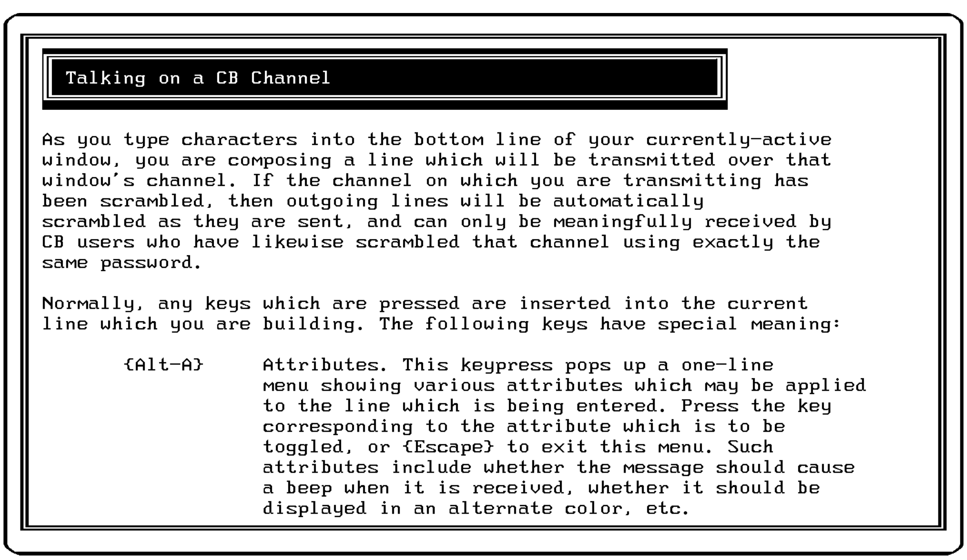

Figure 11: A sample Online Help Facility screen

{Del} Deletes the character at the cursor.

{Ctrl-End} Deletes to the end of the transmit line.

{Ins} Toggles Insert/Overwrite mode on the transmit line. When "**`Ovr`**" is displayed on the transmit line, then characters which you type will *overtype* those which are already in the line. When "**`Ins`**" is displayed on the transmit line, then characters which you type will push to the right those which are already in the line, this *inserting* the new characters between existing ones.

Scrolling Through Received Messages

{Up}
{PgUp}
{Ctrl-PgUp}
{Down}
{PgDn}
{Ctrl-PgDn} These keys scroll the upper part of the current window backwards and forwards by lines, screens, or the entire in-memory buffer. This allows you to recall messages which may have scrolled off of the screen.

{Ctrl-Right}
{Ctrl-Left} These keys pan the upper part of the current window to the right and left in units of 8 columns. This is useful when viewing lines which are too long to be displayed within the confines of the window, and for pushing the handles off of the left edge of the screen so that you can see the largest possible portion of each message line.

Figure 9 shows a screen before horizontal scrolling. Notice that the handle of the transmitter of each message is shown at the left side, and that the message from Mikey exceeds the width of the window. Figure 10 shows the window after **{Ctrl-Right}** has been pressed twice to scroll the window a total of 16 columns

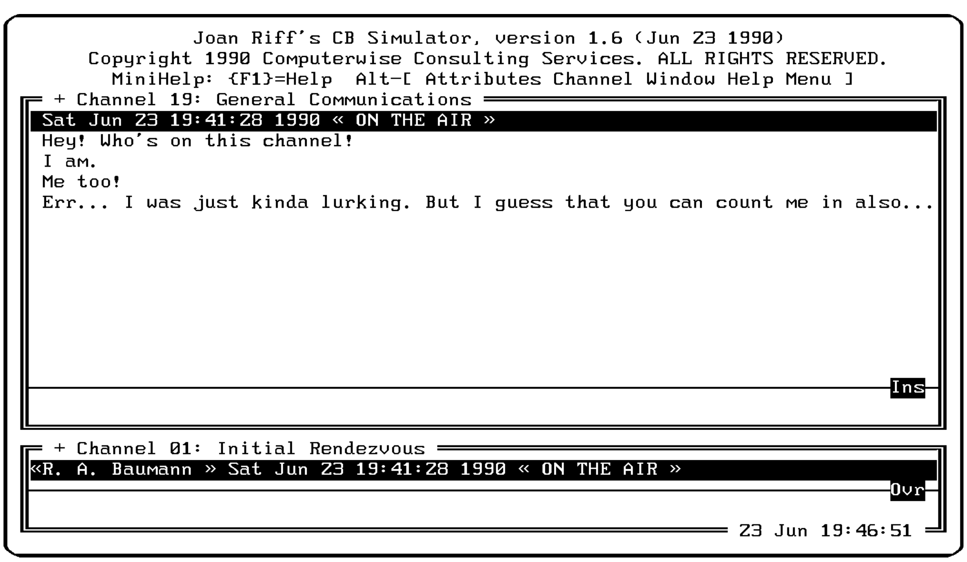

Figure 10: The same window after horizontal scrolling

Obtaining Help

{Alt-H}
{F1} — **H**elp. **{Alt-H}** gives you access to the Online Help facility. What **{F1}** gives you depends upon the exact context in effect when you press it. See "**Context-sensitive Help**" later in this chapter.

Obtaining Pulldown Menus

{Alt-M}
{F2} — **M**enu. Invokes the Pulldown Menu Interface, which is fully described in the next chapter.

Editing the Transmit Line

{Return} — Causes the current transmit line to be transmitted over the current channel. The transmit line is then cleared in preparation for the next line to be entered.

{Right} — Moves the cursor one character to the right.

{Left} — Moves the cursor one character to the left.

{Home} — Moves the cursor to the far left limit of the transmit line.

{End} — Moves the cursor to the far right limit of the transmit line.

{Tab} — Inserts blanks up to the next 8-character TAB column.

{Shift-Tab} — Deletes backwards to the previous TAB column.

{Backspace} — Deletes the character to the left of the cursor.

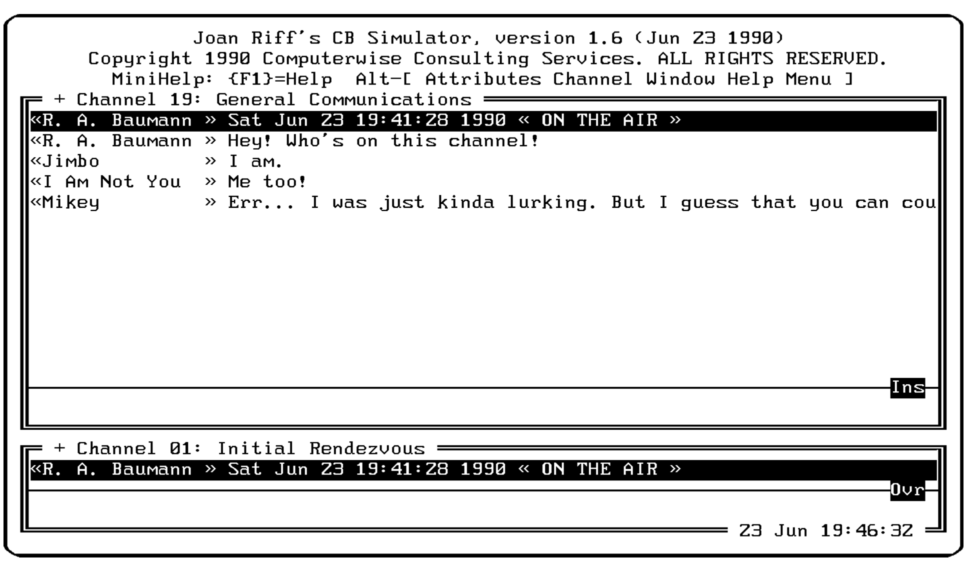

Figure 9: A window before horizontal scrolling

dialog box. The two attributes which may be applied are:

Beep Will cause a beep when this message is received.
Color Will cause this message to be displayed in an alternate color.

These attributes remain in effect for the given window until they are changed. So once you set **B**eep, for example, then all of your messages will beep when received until you turn off this **B**eep attribute.

Figure 7 shows the attributes dialog box at the top of the screen. The current settings of the two possible attributes are shown in parentheses. These are the setting which you change by pressing the **{B}** or **{C}** keys. Notice the transmit line which is being built. The **{Return}** key has not yet been pressed to transmit this line, so the indicated attributes will be applied to this message when it is transmitted.

Figure 8 shows the effects of these settings on a message. Here the **{Return}** key has been pressed and the message sent. Notice how the message is set off from other messages by being displayed in a different color.

Switching Channels and Windows

{Alt-C} **C**hannel. Causes the current window to be tuned to the next available active channel. That new channel's data is then displayed in this window. This is a quick way to browse through several channels without having to use pulldown menus to do so.

{Alt-W} **W**indow. Makes the next window on the screen the current window. This is a quick way to make another window the current one without having to use pulldown menus to do so.

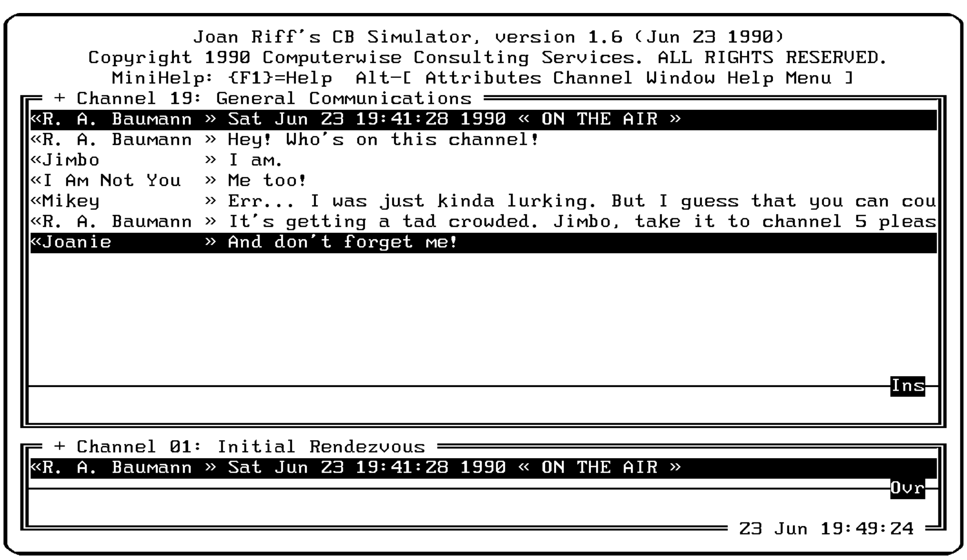

Figure 8: The results of applied transmit line attributes

The Transmit Line

The small, one-line subwindow at the bottom of each window is the *transmit line*. This holds your current outgoing message. The contents of this line are transmitted over the window's channel when you press the **{Return}** key.

The *current window* is the one which is highlighted on your screen. As you type characters into the transmit line at the bottom of the current window, you are composing a message which will be transmitted over that window's channel. If the channel on which you are transmitting has been *scrambled*, then outgoing lines will be automatically scrambled as they are sent, and can only be meaningfully received by ***CB*** users who have likewise scrambled that channel using exactly the same *password*.

Received Messages

In the upper half of each window you are monitoring activity on the indicated channel. Any messages that are transmitted (by you or somebody else) on a channel are automatically displayed in the upper part of the corresponding window. If a monitored channel has been scrambled, then incoming scrambled messages will be automatically unscrambled before being displayed, using whatever password you specified when you asked the channel to be scrambled. If this password is different from the password that was used by the transmitter of a message, then the received data will appear as garbage on your screen.

Conversing on a CB Channel

Normally, any keys which are pressed by you are inserted into the current window's transmit line which you are building. The following keys have special meaning. The discussion of these keys is grouped according to the general function performed.

Message Attributes

{Alt-A} **A**ttributes. This keypress pops up a *dialog box* showing various attributes which may be applied to the transmit line which is being entered. Press the key corresponding to the attribute which is to be toggled, or **{Escape}** to exit this

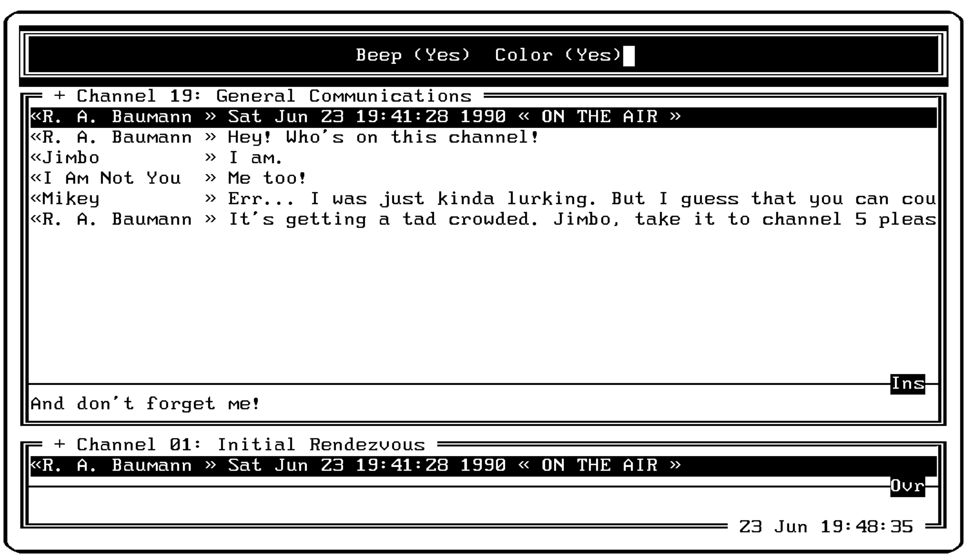

Figure 7: Applying attributes to the transmit line

Using *CB*

Once ***CB*** has been invoked, it is extremely easy to use. For most applications, all that you need to do is type lines of text that you want to broadcast to other users of ***CB***, and watch the responses from those users show up upon your screen.

The Main Screen

Most of the your time spent on ***CB*** will be spent in the *main screen*, which is reproduced for your convenience in Figure 6 below. This sample screen contains two *windows*: one (the upper one) which is currently monitoring Channel 19, and another which is currently associated with Channel 01.

The Window Title Line

Each window has a *title line*, which describes the channel with which the window is associated. The channel is identified by number (01 through 19) and by whatever name has been associated with this channel in the ***CB*** configuration file(s). In addition, the channel identification is preceded by several special characters as follows:

- \+ A plus sign indicates that this channel has been *enabled.* Enabling channels is described in the next chapter.
- \- A minus sign indicates that this channel has been *disabled*. Disabling channels is described in the next chapter.
- @ An "at" sign indicates that this channel is being *scrambled.* Scrambling is described in the next chapter. The absense of such a character means that the channel is being used *in the clear*.

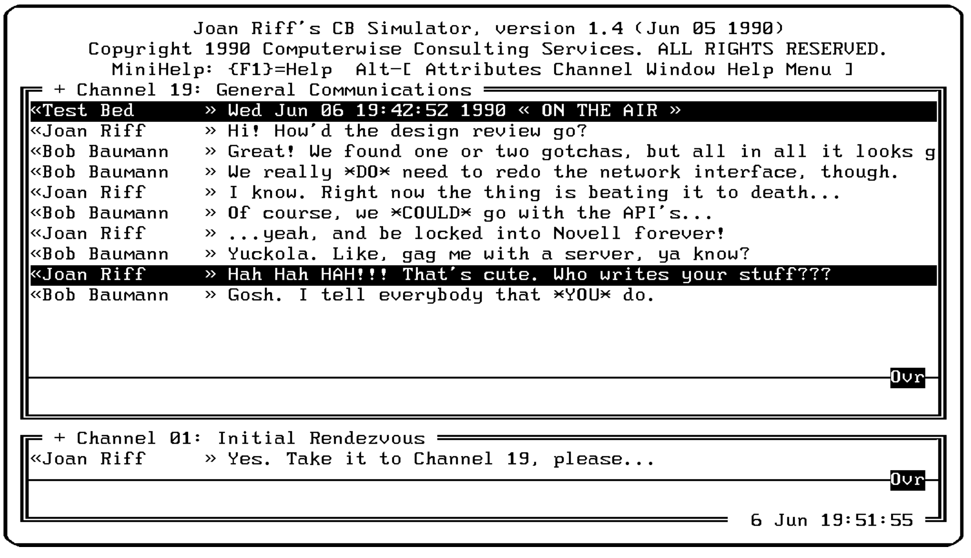

Figure 6: The main *CB* screen

Rather than having to go through the entire Pulldown Window Interface to accomplish this, you can accomplish the same thing by pressing **{Alt-W}** from the main ***CB*** screen.

Window Kill

This selection *kills* the current window (assuming of course that there are at least two windows on the screen), and gives its space to one of its neighboring windows.

Along with **W**indow **S**plit this command allows you to control the number of windows on your screen.

Window Split

This selection *splits* the current window into two, assuming of course that the window being split is large enough to support two separate windows. The two windows thus created are initially pointing to the same channel, but now that they are two separate windows you may independently change each window to suit your needs.

Along with **W**indow **K**ill this command allows you to control the number of windows on your screen.

Users Disable

By *disabling* a user, you cause incoming messages from that user to be ignored. Use this to filter out messages from a user who is hogging the channel, or is otherwise being obnoxious. You identify the user to be disabled by choosing his handle from a subordinate pulldown menu.

Users Enable

By *enabling* a user, you undo the effects of *disabling* that user. Once a user (again identified by handle) has been enabled, incoming messages from that user will again be accepted.

Users Handle

This selection allows you to change *your own* handle (but nobody else's). You are prompted for your new handle. In response to this prompt, enter a string of up to 16 characters. There is no requirement that this handle be unique, although things could conceivably get confusing if two or more users share a handle.

Users Page

This selection allows you to *page* a network user who is currently not on ***CB***. This is the preferred way to send a message to a person's screen to the effect that he is wanted on ***CB***. Since he is not already on ***CB***, of course, you can't very well send him a ***CB*** message. And electronic mail won't do because he may not read it for hours. So this command invokes your network's paging facility[2] to send a short message to the person's screen. All that you need to know to use this command is the network name of the user. On some networks this is known as his *login name*.

Once the paged user has received this message, he can at his leisure invoke ***CB*** and join the conference.

The "Window" Menu

The "**W**indow" pulldown menu controls various operations related to the current window.

Window Channel

This selection tunes the current window to the next channel which has been *enabled*. If there are currently two channels which have been enabled, then this command will tune the current window to the "other" one. If there are more than two channels enabled, then subsequent invocations of this command will sequence through the entire list of enabled channels. Of course, if there is only one channel which has been enabled then this command will have no effect.

Rather than having to go through the entire Pulldown Window Interface to accomplish this, you can accomplish the same thing by pressing **{Alt-C}** from the main ***CB*** screen.

Window Next

This selection makes the *next* window on the screen the current window, assuming of course that you have at least two windows on the screen. That window then becomes highlighted, and its transmit line becomes active.

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2 …as defined by your network administrator when he installed ***CB*** on your network. This is what the "`Page=`" parameter in the ***CB*** configuration file is used for.

Open	Open a new or existing Logfile, and start recording incoming messages to it. If the file already exists then you are given the choice of *appending to* or *overwriting* the contents of the file.
Close	Close an open Logfile. This is done automatically for you if you exit the program with an open Logfile.
Annotate	Write a one-line message to the Logfile. You are prompted for a line to be written. That line is written to the open Logfile along with the current date and time.

File Quit

This selection allows you to exit from this program back to DOS. Any open files are automatically closed for you before the program actually exits.

The “Help” Menu

The “**H**elp” pulldown menu (see Figure 14) gives you access to the Online Help facility. The difference between accessing this facility through this menu and via pressing the **{F1}** key from the main ***CB*** screen is that this menu gives you an index of the helpfile. By selecting an entry from this menu, you can enter the Online Help file at precisely the screen which interests you.

The “Users” Menu

The “**U**sers” pulldown menu allows you to perform various operations associated with users of ***CB***.

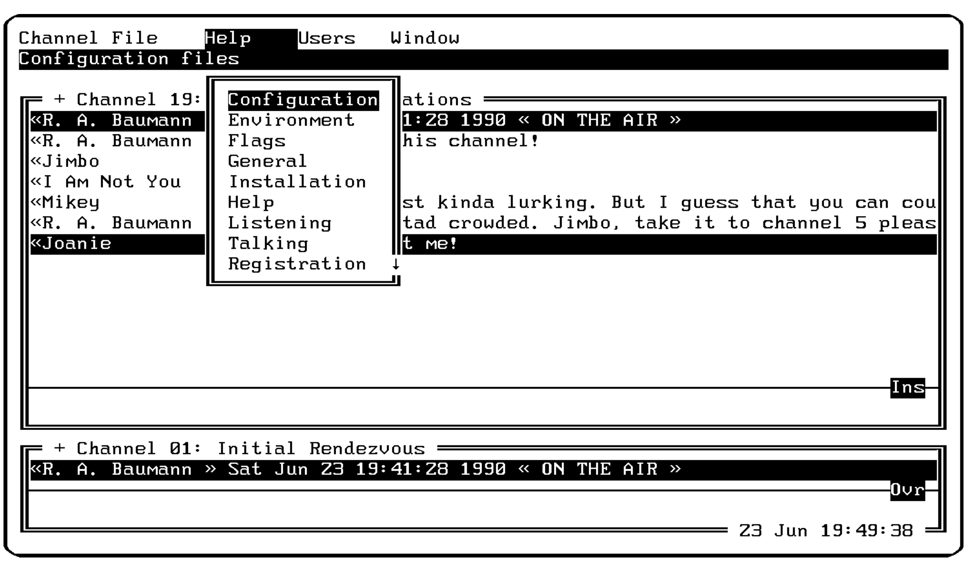

Figure 14: The “Help” pulldown menu

If a scrambled message is received by a user who has not scrambled the channel, it will not be displayed. If it is received by a user who *has* scrambled the channel but who *did not* scramble it with exactly the same password, then it may display as garbage on the screen.

A scrambled channel is identified by a "@" character before the channel identification in the window title line.

Channel Unscramble

This menu selection undoes the effect of scrambling a channel, so that once again messages will be sent and received in the clear.

Channel Tune

This menu selection allows you to tune your current window to a specific channel. Whatever channel that window was formerly tuned to becomes irrelevant. From now on that window will monitor messages from the newly-tuned channel. Whatever channel you select is automatically *enabled*.

The "File" Menu

The "**F**ile" main menu choice gives you access to the various file- and DOS-related operations which can be performed.

File DOS

This menu selection allows you to execute a DOS command from within this program. Enter the DOS command which you want to execute. ***CB*** will pass that command to DOS for execution, and will then pause for you to press the **{Return}** key before it clears the DOS screen and returns to the ***CB*** screen.

If you want to execute a series of DOS commands, then you may use this menu selection to enter the DOS command interpreter `COMMAND.COM`. You indicate this by entering an empty command string (i.e. — you simply press **{Return}** instead of entering a command to be executed). This causes ***CB*** to invoke `COMMAND.COM`, which displays the familiar DOS prompt and then processes your commands. To return to ***CB***, issue the DOS command "**`EXIT`**".

File Transmit

This selection allows you to send an ASCII text file as if you typed it into the transmit line yourself. In fact, the file may be transmitted in either of two modes:

Manual	Each line of the file is read into the window's transmit line, where you may then edit it. The line will not be transmitted until you press **{Return}** as you would for any transmit line.
Automatic	Each line is read into the window's transmit line, *and then automatically transmitted over the channel*. You do not need to press **{Return}** to transmit a line. Nor can you edit each line before it is sent.

File Logfile

This selection controls the *Logfile*, which is an ASCII file to which incoming messages are recorded. You may perform the following functions with the Logfile:

<u>**Menu Positioning**</u>

CB makes every attempt to place pulldown menus in such a way that superior menus remain visible, so that you can judge from the chain of displayed menus just exactly how you got where you are. However, ***CB*** won't let menus drop *too* far down the screen, or else they will obscure too much of the main ***CB*** screen.

Thus some menus may open up partially or completely *on top of* superior menus. And if a pulldown menu contains more entries than can be shown within the relatively limited vertical space allocated for pulldown menus, then up and/or down arrows will appear in the margins of the pulldown menu to indicate that more choices exist above or below the indicated choices, which can be reached by scrolling the menu upward or downward with the appropriate **{Up}**, **{Down}**, **{PgUp}**, or **{PgDn}** keypresses. Figure 14, for example, shows the "**H**elp" pulldown menu. This menu contains too many items to be shown at once, and a down arrow indicator ("↓") in the lower right corner of the menu box tells you that there are more choices below those which are shown.

Invoking the Pulldown Menu Interface

The Pulldown Menu Interface is invoked from the main ***CB*** screen by pressing **{Alt-M}** (that's "**M**" as in "**M**enu") or the **{F2}** key. Once either key has been pressed, the top three lines of the screen are replaced with the main menu. This is your point of entry into the menu system.

The "Channel" Menu

Choosing the "**C**hannel" entry from the main menu opens a pulldown menu which shows the various operations that may be performed upon ***CB*** channels.

Channel Disable

This menu item allows you to *disable* a given channel, which means that input from the given channel will be ignored. You won't see new messages from this channel on your screen, even if you have a window on your screen which is currently tuned to that channel. More importantly, internal memory won't be wasted holding messages from this channel, which means that more memory will be available to hold messages that you are really interested in, and DOS commands issued from within this program will have more memory in which to run.

A pulldown menu is presented which allows you to select the channel which is to be disabled.

Channel Enable

This menu choice allows you to *enable* a channel, which undoes the effects of a disabled channel. Messages from the indicated channel will once again be accepted by this program, and passed to any windows which are tuned to the given channel.

Channel Scramble

You may *scramble* a channel, which means that transmitted messages will be *encrypted* before they are transmitted over a channel and *decrypted* upon receipt. This may be used to ensure a measure of privacy on the otherwise open simulated airwaves.

When this menu selection is made, you are given the opportunity to select the channel which is to be scrambled. You are then asked for a *password* to be used to scramble data on the channel. This password may be up to 8 characters long. *This exact password must be used by all **CB** users who want to exchange scrambled messages*!

Pulldown Menus

A *pulldown menu* appears when a menu selection has sub-selections from which you may choose. One and only one entry in this vertical menu is highlighted. You may move this highlight by pressing the keys **{Up}**, **{Down}**, **{PgUp}**, and **{PgDn}**. As you move the highlight, the description on the second line of the screen changes to suit the entry that is highlighted. In this manner you may browse up and down through the various menu entries until you arrive at just the one that you want.

As with the horizontal main menu, an item is selected from a vertical pulldown menu by moving the highlight to the desired entry and pressing the **{Return}** key.

Context-sensitive Help

The short description on the second line of the screen might not give you enough information about the highlighted choice to satisfy you. As mentioned previously, the **{F1}** key may be pressed to obtain a more explicit hint. This causes a *hint box* to appear which more fully describes the highlighted choice.

Backing Out

The **{Escape}** key serves to *back out* of the current menu. This returns you to the prior menu from which the current menu was selected. If pressed when only the main menu is on the screen, this keypress will exit the Pulldown Menu Interface back to the main ***CB*** screen.

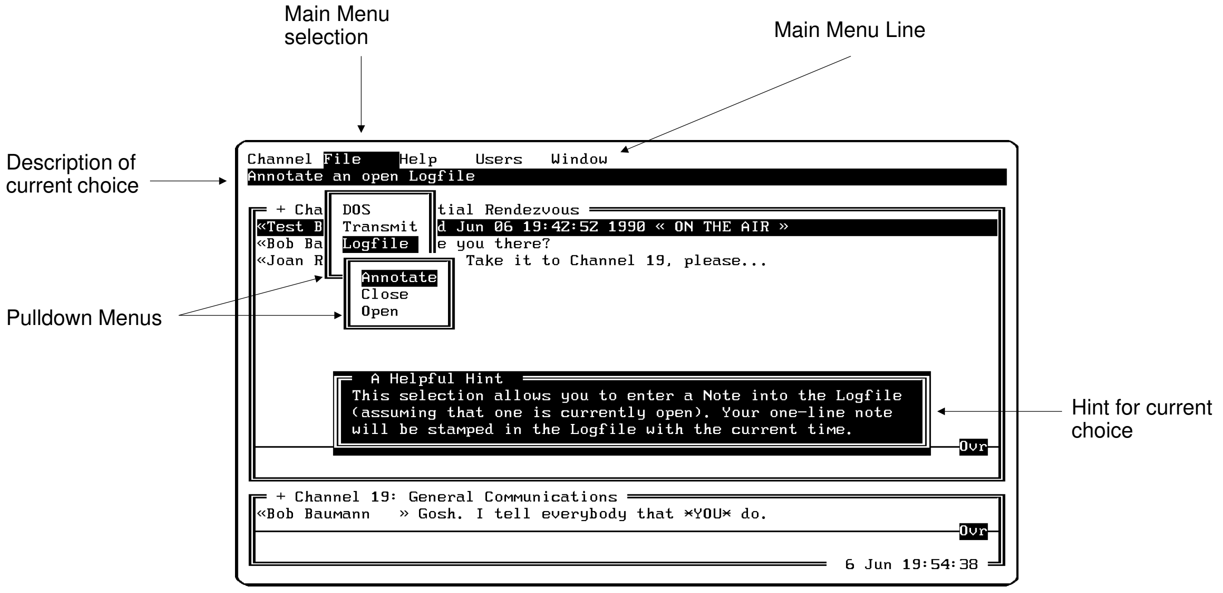

Figure 13: Components of the Pulldown Menu Interface

The Pulldown Menu Interface

> NOTE: While in the Pulldown Menu Interface, communications are temporarily frozen. They will be resumed when you exit the Pulldown Menu Interface and return to the main ***CB*** screen.

Much can be accomplished with ***CB*** without ever leaving the main screen. ***CB***, however, is much more powerful than that main screen would indicate.

In order to keep the main screen as simple and clean as possible, it has not been cluttered with the dozens of commands that control ***CB***'s more advanced operations. Instead, these additional commands have been gathered together into an easy-to-use *Pulldown Menu Interface*.

Components of the Pulldown Menu Interface

The Pulldown Menu Interface is inherently different from the command-driven interface used in the main screen. There are many available commands, and the menu approach is designed to let you see all available options before you choose one, and to browse through those choices without necessarily committing yourself. Lastly, it allows you to back out of one series of menus, to pursue another menu path if you choose to.

Please refer to Figure 13, which shows the screen as it might appear after navigating the menus down a certain distance. This will serve as an example of the various pieces of the menu interface.

The Main Menu Line

The topmost line of the screen has been replaced with the *main menu line*. This presents the various general categories of commands which are supported by the menu system. One and only one of the names on this line will be highlighted. This highlight is moved by using the **{Left}** and **{Right}** keys, and defines the current *main menu selection*. As you move this highlight, the second line of the screen changes. This line always holds a short description of the highlighted selection. In other words, this line tells you what you will be doing if you choose the highlighted menu selection.

Once you have highlighted the main menu choice that you want to *descend*, you select that choice by pressing the **{Return}** key[1]. A *pulldown menu* then appears below the selected main menu choice.

1 Alternatively, you may select an entry in this (or any other) menu by pressing the key which corresponds to the letter in each entry which is in a different color.