lines to your message, the only thing it will add is the 'From:' line so you *must* supply the message in correct Internet format. This means that you supply the entire Internet header[44], a blank line and then the text of your message. The only part of the header that is mandatory is the 'To:' line, you can add 'CC:', 'BCC:', 'REPLY-TO:' and other optional headers as suits your purpose. All headers can span multiple lines using header folding (break the line at an appropriate point and then indent the continuation lines by at least one space). For more information refer to RFC-822 (and don't blame me if your head explodes).

One of the interesting use of all this is to do bulk junk mailings, for example to send mail to 5 people on AMUC Express and one person on another Internet site, from your account on AMUC Express you send a message like:

```
To:  "stephen vermeulen"@amuc,
    "jeff rose"@amuc, wuth@castrov.cuc.ab.ca,
       "bryan ewert"@amuc,
      "ian sinclair"@amuc, AMUCChairman@amuc
Subject: Some wild ramblings...

Here is a test message, it goes out to six people.

Regards, the tester.
```

notice the 'To:' line has been folded onto four lines in the message (keeping each line to under about 80 characters) and the continuation lines each start with at least one character of white space (the ragged alignment is intentional to demonstrate that alignment is not needed). The five users who are also on 'amuc' can have the addresses abbreviated to just '@amuc', the one user who is on a separate internet site needs a full address specification. The following is the same message, but with one one person as the addressee, two others get the message as a carbon copy ('CC:') and the other three get it as a blind carbon copy ('BCC:'):

```
To:  "stephen vermeulen"@amuc,
CC:  "jeff rose"@amuc, wuth@castrov.cuc.ab.ca
BCC:  "bryan ewert"@amuc,
      "ian sinclair"@amuc, AMUCChairman@amuc
Subject: Some wild ramblings...

Here is a test message, it goes out to six people.
```

[44] Note: if you are using expert mode to send internet messages you must capitalize the first letter of the header lines. That is you should use: 'To:', 'Subject:' etc. not 'to:' and 'subject:'. This is to avoid a problem in UUCP's sendmail command.

where the '`@bbsname.xx.yy.zz`' is the address of the BBS and the '`<UserID>`' gets replaced with your account number. Your account number is a unique multi-digit number which IceBBS assigns to you when your account is created. To discover what your account number is you can use the '`Show`' button (see Section 5.13.13 [User profiles], page 74). For example if your account number is '`N123456`' on my BBS machine then your email address would be:

```
N123456@ragnarok.myroyal.ab.ca
```

The reason for this is that there are certain restrictions on the characters that a name can contain in an Internet address, whereas IceBBS does not place similar restrictions on it's user's names. If your name only contains letters or digits then you can use that name directly, for example:

```
TermUser12@ragnarok.myroyal.ab.ca
```

would be the address for someone called '`TermUser12`' on my BBS.

If your name contains spaces then you can try one of the following:

`"Your name"@site`
: Placing your name in quotation marks will usually work, but the software running at some sites along the way might have problems with it,

`Your_name@site`
: Replacing the spaces in your name with underscores will fix the problem, the BBS mail importer knows to try replacing any underscores with spaces when looking for an account to deliver the mail to,

`Your.name@site`
: Replacing the spaces in your name with periods will fix the problem, the BBS mail importer knows to try replacing any periods with spaces when looking for an account to deliver the mail to.

If your name contains any punctuation or other special characters (especially parentheses) you will have to enclose it in quotation marks, otherwise the various mail processors along its path will try to process it further.

Note: many internet mail processors do not respect the quotation marks, when this happens it can cause your mail to bounce in strange ways or perhaps to go to unexpected places. If you are wanting to use internet mail I would strongly suggest you create an account with a name that has no spaces or other punctuation characters in it.

function he will see the message *without having to have been reading that conference in the mean time.*

5.13.7 Sending mail to an Internet user

The '`Send Internet`' button provides a way to enter email messages that are in a form suitable for transmission to another machine connected to the *Internet*. The Internet is a big network of computers that spans the globe. This network is roughly composed of two sets of machines, those that are *on the net*[41] and those that are *nearby*[42]. There are estimates that as many as 40 million people may now have access to the Internet. The big pay services like BIX, GEnie and CompuServe offer access to the Internet for email purposes.

Note that this feature may not be supported on all IceBBS systems, they need to have a UUCP feed to connect their machines to the net. If it is not available an error message will appear when you try to send a message, consult the news tool for local information.

5.13.8 Internet addressing

Assuming that the BBS is connected to the net then to send and receive mail all you have to do is to find the name and address of the person you want to send mail to. Look for an address like:

```
svermeulen@ragnarok.mtroyal.ab.ca
```

(which is my address), usually in the signature area of their messages (some magazines like Wired and Mondo also publish the Internet address of their authors...). When you hit the '`Send Internet`' button IceTERM will prompt you to enter the person's address. You need to type it in *exactly*. Normally these things are case insensitive but its best to preserve the case. After entering the address IceTERM will ask for the subject of your message and then will open your editor (see Section 2.6 [Your Editor], page 8) to allow you to compose your message. When you save the message and exit from the editor IceTERM will ask if you really want to send the message, say no to abort the process, otherwise the message will start its twisty journey through the Internet.

[41] To be on the net your machine needs to actually be connected to the net 24 hours a day through a dedicated high speed line.

[42] Amiga users can use the UUCP package from Matt Dillon and a cast of thousands to connect to other machines that connect to other machines that connect to the Internet, in this case the machine is said to be nearby, perhaps a couple of *hops* off the net.

Table of Contents

that IceTERM will start sending the message to the addressee's account on the BBS system.

5.13.3 Sending a file

The '`Send File`' function (found in the email control panel, see Section 5.13 [EMail], page 65) works in much the same way as the '`Send Message`' function. You hit the '`Send File`' button, then select the name of the user you wish to send the file to, and then you use the file requester to select the file that you wish to send. Once this is done the email system will ask for final confirmation, and if it is safe to proceed, will load the file into memory (so you don't have to keep that disk in the drive until the transmission is done) and start sending the file. Note that there is no progress indicator on files sent by email, you know its done when the modem lights are no longer flashing or when you can click on the email close window button without a warning requester appearing. It is highly recomended that you archive[37] the files you are sending so that the recipient can test them to see that they did not get corrupted or truncated. Files that you send this way go to that user's private email directory where they are held for him to download in the normal way (see Section 5.9.10 [Downloading email], page 55). The files are identified by name and a note as to who sent them[38] and when.

5.13.4 FidoNet mail

The '`Send Fido`' button is a version of the '`Send Message`' button that will prompt you for the additional information required to send a message to a user on another BBS system through FidoNet. Note that the BBS you are connected to might not support FidoNet, or if it does it might place some restrictions on what other BBS systems can be mailed to. It is best to consult with the sysop before using this function. Check the '`News`' function (see Section 5.14 [News], page 75) to see if there is a news file describing restrictions on email or netmail.

5.13.5 FidoNet addressing

The additional information needed to send a FidoNet message is the name of the person and the FidoNet number of the BBS she is registered on. The FidoNet numbers (sometimes called *node numbers*) are composed of three or four numbers separated by various punctuation marks. The numbers take the format:

[37] With a tool such as '`LHARC`', '`ARC`', '`ZOO`', '`LZ`' or '`LHA`'.

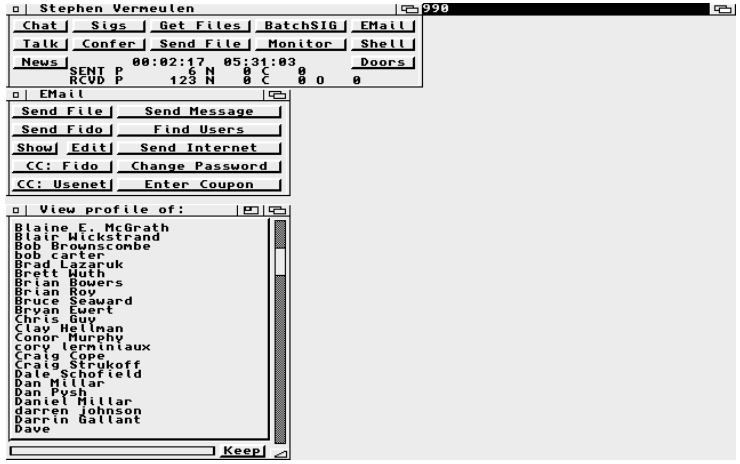
[38] The *note* is in the form of a short description (see Section 5.9.5 [Short description], page 51.

Short Contents

Since some people find the screen flashing and beeping to be annoying the flash and bell gadgets are provided to enable and disable these two methods of beeping. If the gadget is pushed in (selected) the beeper will be allowed to use that mode and if the gadget is out then the beeper cannot use that mode. Your preferred setting for these two functions can be saved in the IceTERM icon by using the monitor control window's '`Snapshot`' menu item (see Section 9.6 [The snapshot menu], page 108).

5.13 Email

The email tool is used to send private electronic mail between users and to send files between users. Neither of these forms of communication is completely private[35], although other users can not see your mail, the sysop can if he wants. When the tool is first opened a small control window will open containing seven buttons.



The Email Windows

When the tool is opened for the first time all these gadgets may appear ghosted. Once the gadgets unghost you can use email. On older versions of IceTERM you may observe the modem lights flashing for quite a while as IceBBS is sending you the list of all the users on the BBS[36]. When this list has been received the gadgets will unghost and all will be ready

[35] The only way around this at the moment is to send files that have been encrypted by a password known only to you and the receiver, see Chapter 10 [Encryption], page 123.

[36] This downloading only has to happen once, the list is kept on disk for the tool to use in later sessions. Occasionally you may wish to grab a new copy of the user list.

T

U

V

W

it again. This is a problem if you wanted to reply to that message,

`P` this is the *post a message* function. Upon on hitting the '`P`' key the message editor that you have selected through the '`EDITOR`' tool type in the IceTERM icon will appear. You then type your message into this and when it is complete you save it and exit from the editor. IceTERM will recognize when you close the editor and will then post the message to IceBBS. Note that if you have problems posting a message you should refer to Section 4.9.3 [Message problems], page 24.

`R` this is the *reply to current message* key. Hitting the '`R`' key will summon the editor and will load the message you are replying to into it. You can then edit the original message (perhaps quoting relevant sections) and when you are done you save and exit just like with the posting function. If you are having problems refer to Section 4.9.3 [Message problems], page 24,

`K` this is the *message keeping* function. One of the IceTERM icon tool types is the '`KEEPFILE`' item. You use it to specify the name of a file where you wish to save (or keep) useful messages. Every time you hit the '`K`' key a copy of the current message will be appended to this file.

The feedback system does currently support some of the ANSI control codes (such as bold face and colouring text) but do not count on this facility always being available, it makes life difficult for nice scrolling readers.

5.12 Monitor

The monitor tool is a facility for you to watch what is happening on the other lines of the BBS. When this tool is opened three windows: a small control panel and two scrolling text lists, will be appear.

It should be noted that on all modems with the exception of the US Robotics HST modem[30] there is almost no penalty when uploading and downloading at the same time. By this I mean that with a 2400 baud modem (a typical full duplex modem[31]) you will be able to upload at about 230CPS[32] while still downloading at another file at the same time at 230CPS. If your modem is not full duplex the modem has to send a small amount of data one way, then turn around and send some data in the other direction. Because of this constant reversal of the high speed direction the effective throughput is reduced.

Tests show that with the HST modem (which should theoretically get about 700 CPS during bidirectional transfers) one only can get about 350 CPS, so in this case it is best to do all your uploading *and then* do all your downloading once the uploads are complete, doing so will keep the transfer rates in the 1500-1600CPS range.

5.11 Feedback

The '`Feedback`' menu item activates a simplified message base reader designed to provide a quick way for the user and sysop to exchange notes. This tool was the original message base for IceBBS, and its design stems from a time when all that was needed was some way for users to leave feedback and bug reports. Not much work has been done on this tool since then and it is showing its age. When the '`Feedback`' menu item is selected a single console-like window will be opened, the message text will be displayed therein.

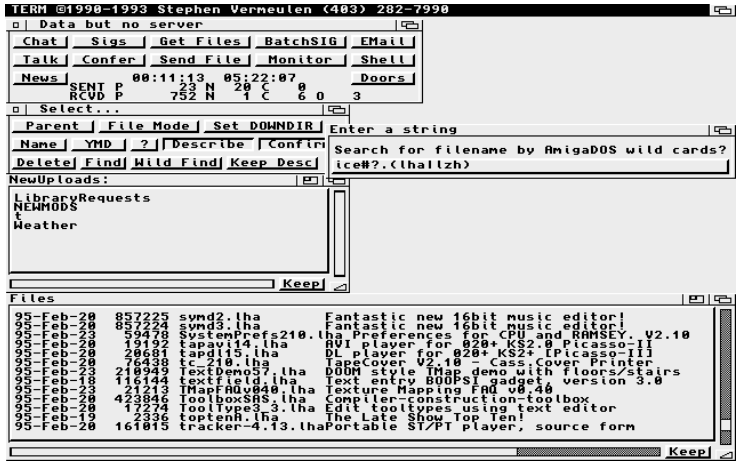
[30] The HST modem is an example of a modem that does not have a symmetric distribution of send and receive speeds the only other I know of that may do this is the TeleBit Trailblaizer in PEP mode.

[31] Full duplex modems are by far the most common modems these days, the old 1200, 2400 and the newer V.32, V.32bis and V.34 modems are examples of these.

[32] Characters per second.

Concept Index

This search tool, like the full '`Find`' button displays its results in a scrollable text window. If you click on a file name in this window the long description will be shown (if you have it enabled) and you will be asked if you want to download the file. The results of the search are shown in the next figure:



The `Wild Find` button

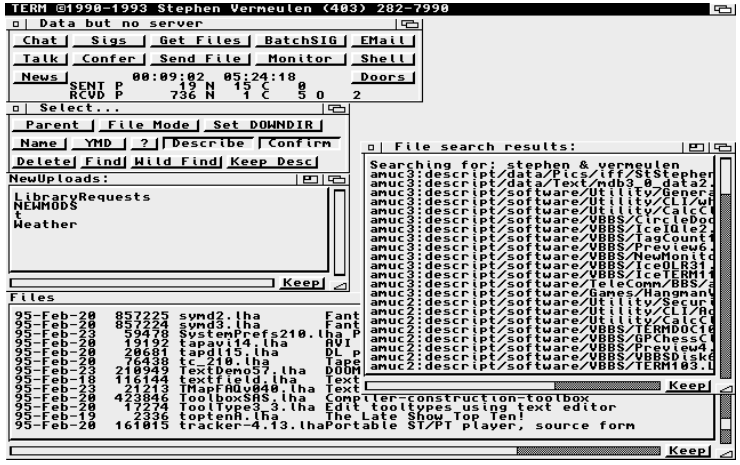
5.9.12 Keeping file descriptions

If you are an IceBBS sysop then when you download files with the '`Keep Desc`' button pressed in the complete file (including IceBBS header information) will be sent to you. If you are not an IceBBS sysop and you try to do this you will find that the first part of the file will appear corrupt so you don't want to use this mode.

5.10 Send file

The '`Send File`' button is used to send a file from your machine to the BBS. Upon clicking the '`Send File`' button the standard Amiga file requester[28] will appear.

[28] Under AmigaDOS 1.3 the ARP File Requester will be used instead.



Results of the first search

If you click on a file name in this window the long description will be shown (if you have it enabled) and you will be asked if you want to download the file.

5.9.11.2 Search engine logical operators

The search string will be parsed by the finder and each word within the string will be searched for in the database. This produces a table of files for each word. The finder can apply several operators to combine these tables and hence allow you to search for files which must or may or cannot contain several words. The operators are:

'`A & B`' The '`&`' (and, intersection) operator takes the lists of words contained in the two files and produces a new list containing only the words in both files.

'`A | B`' The '`|`' (or, union) operator takes the lists of words contained in the two files and produces a new list containing all the words in both files.

'`A - B`' The '`-`' (minus, difference) operator takes the lists of words contained in file '`A`' and removes from that list any words which are also contained in file '`B`'.

As well parentheses are available to allow you to group several operations:

```
A & (B - C | (D & F))
```

will evaluate '`D & F`' first to produce '`X`'

```
A & (B - C | X)
```

it will then evaluate '`B - C`' to produce '`Y`'

Tool types and Buttons Index

5.9.10 Downloading emailed files

The email tool can be used to send files to another user of the BBS (see Section 5.13.3 [Emailing a file], page 67). Each user is given a private email directory on the BBS where her files are stored until she has a chance to download them. This special directory is given the name '`Email Files...`' and it appears in the first list of directories that appears when the get files tool is opened.

When a file is sent to you by email a message will appear during the login process alerting you to the file's presence. You can then use the get files tool to download the file whenever it is convenient. All the standard get files functions work with the emailed files, including the resume function. The get files tool will display the name of each file that has been sent to you along with the name of the person who sent it in the short description area.

Once you have successfully downloaded an emailed file you should delete it from the BBS. To do this you click on the '`Delete File`' button (so that it is pushed in) and then when you click on the name of a file IceTERM will ask you if you wish to delete the file from the BBS. If you say '`Yes`' to this requester the file will be deleted from the BBS and the get files list will be updated. You should try not to keep too many files on the BBS at once in your email directory, since it is within the sysop's powers to delete files from the accounts of users who are abusing their privileges at any time...

5.9.11 Searching for files

IceBBS systems offer two ways to search for files: by contents and by name. Both of these are accessed from the '`Get Files`' tool using the '`Find`' and '`Wild Find`' buttons, shown in the next figure:

13 Thanks

Thanks to all those who suffered through the bugs in various early versions of IceBBS and IceTERM, your testing is much appreciated. And special thanks go to Ian Gunn for the loan of his spare modem!

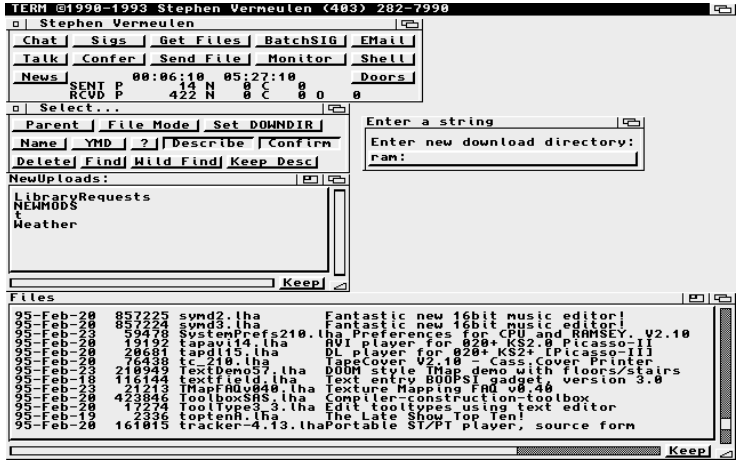
Another round of thanks go to the AMiga Users of Calgary Society (AMUC) for their loan of two modems and phone lines for testing some of the multi-line facilities in the early days of IceBBS developement. AMUC can be reached at:

AMUC
Box 34230
#19, 1200 37th St. S.W.
Calgary, Alberta, CANADA
T3C 3W2

My thanks also go out to US Robotics for allowing me to purchase a pair of their Dual Standard V.32bis/HST modems on their developer support program. Highly recomended modems, these babies really truck!

Thanks to Bill Stott, Jeff Rose and Bryan Ewert for assisting in the proof reading of this manual.

Last but not least, thanks to Marrieta for putting up with all the time I spend on IceBBS development, and for baking all those cookies for Developers' meetings.



Changing Download Directories

5.9.8 Controlling the download

To start a file download just click on the name of the file to be downloaded. Then depending on the settings of the '`Describe`' and '`Confirm`' buttons (see Section 5.9.3 [Confirmation], page 51) a confirmation window may appear, if it does click on its '`Yes`' gadget; also, a description window containing a long description of the file may also appear (not all files have one), this gives you extra information about the file which may help you make up your mind about downloading it. Once you have confirmed that you want to download the file a small window will appear containing the name of the file that is being downloaded and the number of bytes left to be downloaded and a '`Pause`' button. The file will be written to your download directory (see Section 5.9.7 [Download directory], page 52).

Once a download has started you can pick additional files for download, leave the get files windows on the screen or close the get files windows all together. If additional files are selected for download they will start transferring almost immediately. Each file will be given a turn on the line, about 5000 bytes[25] will be transferred and then the next file will get a turn. The downloading system was designed to do this so that the user can start a large download and then if he found a another file that was needed quickly he can just click on it and get it at the same time as the long download. The '`Pause`' button in each of the download windows is used to place that particular file download on hold,

[25] The actual amount depends on how the sysop has configured his IceBBS system, if he has many CDROM drives online he will probably have increased this amount.

OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

12.4 Disclaimer

No warranty, either express or implied, is made with respect to the fitness or merchantability of IceTERM.

Stephen Vermeulen (referred to as "the Author"), reserves the right to not develop any future versions of IceTERM.

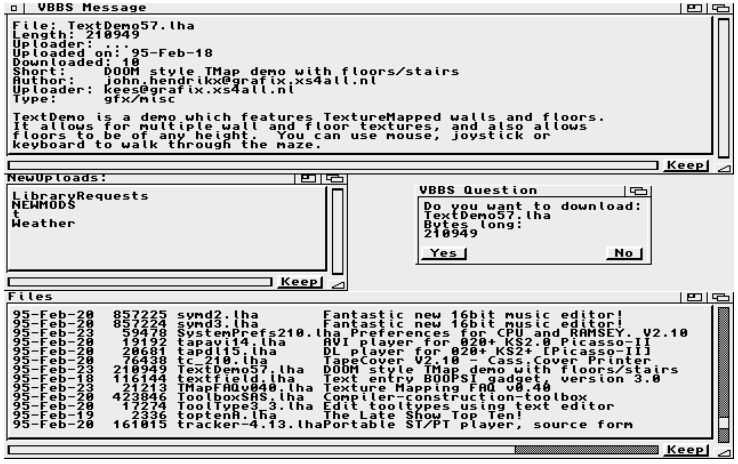
The Author will try to make a good faith attempt at correcting any problems if any are discovered, but is in no way required, nor bound to correct them.

The Author neither assumes or accepts any responsibility for the use or misuse of these programs. The Author also will not be held liable for damages or any compensation due to loss of profit or any other damages arising out of the use, or inability to use these programs.

The Author will not be liable for any damage arising from the failure of these programs to perform as described, or any destruction of other programs or data residing on a system attempting to run the programs. While the Author knows of no damaging errors, the user of these programs uses it at his or her own risk.

5.9.3 Controlling the requesters

There are several mode control buttons in the get files control window. The first two are the '`Describe`' and '`Confirm`' buttons. By default these buttons are selected (they appear *pushed in*) if you deselect either one and snapshot the window (see Section 5.2 [The main buttons], page 32) they will appear in the desired state when you next use IceTERM. The '`Describe`' button controls whether the IceTERM program will request a full file description when you click on a file name. If the button is selected, IceTERM will request the description when you click on a file name.



The Description and Confirmation Windows

The '`Confirm`' button is used to enable and disable the download confirmation requester. If you would like to quickly click on a number of files to be downloaded and do not want to be bothered by requesters[23] just disable the requester by deselecting the confirm button.

5.9.4 Date format

The '`YMD`' button is used to select between two different formats of date display, a concise one and an expanded one, respectively.

5.9.5 Short description

The '`?`' button will (when selected) allow the BBS to send IceTERM the short file descriptions to be displayed in the files window. When these are received they will show up to the right of the file names. Short

[23] Maybe you have a V.34 modem and you can readily download anything and everything.

12 Matters Legal

12.1 Direct updates

The current version of the complete IceTERM and IceOLR set along with the door programmer's tool kits, including the printed documentation for both IceTERM and IceOLR is available for US$15.00 (including shipping, outside North America add $2.00 extra for shipping) from the Author.

Amiga Dealers and Users Groups interested in selling the IceTERM manuals should contact the Author directly.

If you have any suggestions, bug reports etc., feel free to contact the Author at:

Stephen Vermeulen
45 Butler Cr. N.W.
Calgary, Alberta
CANADA, T2L 1K4.

or by voice phone at (403) 282-7990 in Canada (Mountain Standard Time). During the evenings or at weekends are best.

Or you can use email and send your questions to:

svermeulen@ragnarok.mtroyal.ab.ca

or

stephen vermeulen 1:134/92.0

12.2 Distribution restrictions

The program IceTERM may be redistributed under the following restrictions:

- The programs and documentation may not be modified or patched in any way,
- Each program must always be distributed with its documentation file,
- Additional documentation, examples, executables and script files may be added to the distribution archives as desired; so long as these are not marked as being the product, property or responsibility of Stephen Vermeulen,
- The programs or documentation are not to be included in, or distributed with any product for which the retail price exceeds twice the

up with the recent chatter[21], the number of old messages that will be sent is determined by the conference history setting on the BBS machine which the sysop can configure.

Since the conference window multitasks with the rest of the IceTERM tools it is quite safe to open the conference window up and then go away and read messages or download files while waiting for someone to enter the conference. One of the more common annoyances is a user who enters the conference and then immediately leaves it, without waiting for others to join him. To prompt other users to enter the conference there is a paging button in the '`Monitor`' tool (see Section 5.12 [Monitor], page 63).

To capture the contents of a conference hit the capture button '`Log`' which will then change to '`Logging`' to indicate the conference is being logged to a file. Which file you ask? By default it will go to '`RAM:CONF.LOG`', but if you include the '`CONFLOG`' tool type you can specify a different file name.

There are several special icon tool types (see Section 9.15 [Conference tool], page 115) for the conference system.

5.9 Get files

The get files function is perhaps the most used function on any IceBBS based system. This is the *directory utility* with which you can browse around the file system of the BBS and select files for downloading. When the get files button is clicked; three windows will appear and the modem will start receiving the root directory names from the BBS. Once this is finished the directory window will be refreshed and the names of the root directories on the BBS will appear.

[21] And also see who else has been logging in and out during the day.

11 Technical Information

This chapter contains some miscellaneous technical information that might be of interest to various users of IceTERM. The items included here are all based on answers to questions that users have asked from time to time on my BBS.

11.1 Multitasking

IceTERM is actually a family of programs contained in a single executable that multitask together as needed. The most important program (from the point of view of reliable data transfer) is the *protocol*, it runs at the highest priority. The next is the MUX[1] (it decides who gets what from the protocol), it runs one priority level below the protocol process. Below the MUX are the the various user interface modules (which also do the disk or user I/O), these all run one priority level below the MUX (hence, two levels below the protocol). Connecting these are linked lists (often in the form of Exec messages queued at Exec message ports) containing the queued data.

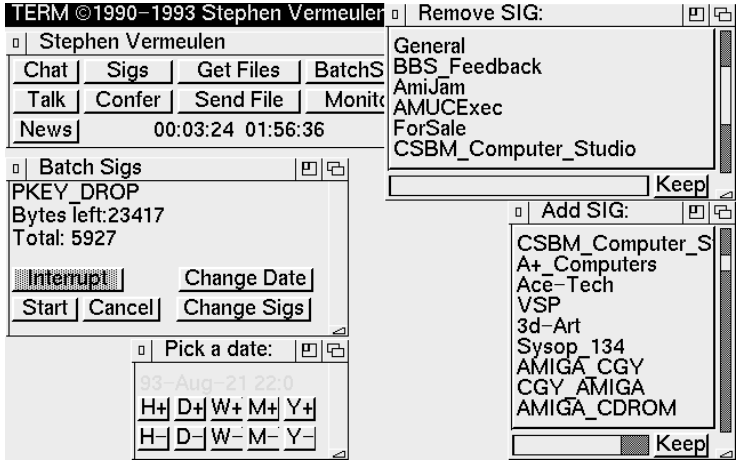
For example, when you start something from the WorkBench it starts at priority 1, so the protocol runs at 1, the MUX at 0 and the other tasks at -1.

When you started '`LHARC`'ing (or '`LZ`'eding) from a CLI at the default priority of zero, you are starting a *very* compute intensive operation, in fact '`LZ`' consumes all the CPU that the protocol does not use and completely starves the MUX and other tasks since it is running at a higher priority than they are. While you have free RAM this is not a problem for IceTERM, as it just adds the data to the queue between the MUX and protocol. With something like '`LZ`' or '`LHARC`' it is best to run them at a lower priority (-5 is good and safe), they will still finish in about the same time, but other tasks can get to run if they need to. The '`PRIORITY`' tool type can be used to adjust IceTERM's priority, see Section 9.12 [Task priority], page 112.

11.2 68040 Machines

IceTERM flushs the 68040 data cache properly when it spawns subprocesses. What this means is that it is safe for you to leave the *COPYBACK* mode on when running IceTERM on an '040 equipped Amiga.

[1] MUX is short for multiplexer.



Interrupting a Batch SIG Download

The '`Change SIGs`' button will summon a pair of windows with which you can make *temporary* changes to your current subscription list (allowing you to just request one SIG or even request SIGs you don't normally subscribe to). Once the dates and SIGs to be downloaded are selected you hit the '`Start`' button and the process starts again. If you decide that hitting the '`Interrupt`' button was just a bad idea, hit either the '`Cancel`' or the close window buttons.

5.7.3 Auto starting batch SIGs

Batch SIGs can be automatically started by IceTERM by including the '`AUTOSTART=batch`' tool type (see Section 9.14.4 [Autostart], page 114) in the IceTERM icon. Once you have done this IceTERM will start a batch SIG download as soon as you log into the system and the downloader window will close once it is done, so you can make the message transfer completely automatic.

Batch SIGs should abort automatically when disk space is exhausted (you will probably have to click on the '`Cancel`' button of at least one disk full requester), and when you go to resume in a later session the only extra resending will be the message that was being written when the disk ran out of space (the old SIGs used to have to retransmit the entire SIG that was being downloaded when the problem occured).

5.8 Confer

The confer function implements a live, real-time, chat or conferencing function between all the users who may be on-line at the same time.

10 Message Encryption

This chapter addresses the problem of privacy in BBS based communications. If you wish to use a BBS to send some confidential information to another person you should be aware that the the data you send may be readily visible to other people. Essentially from the time you enter your data into your computer to the time it is received by the intended person your data is at risk. The greatest area of risk is while your data is stored on the BBS awaiting delivery to the recipient.

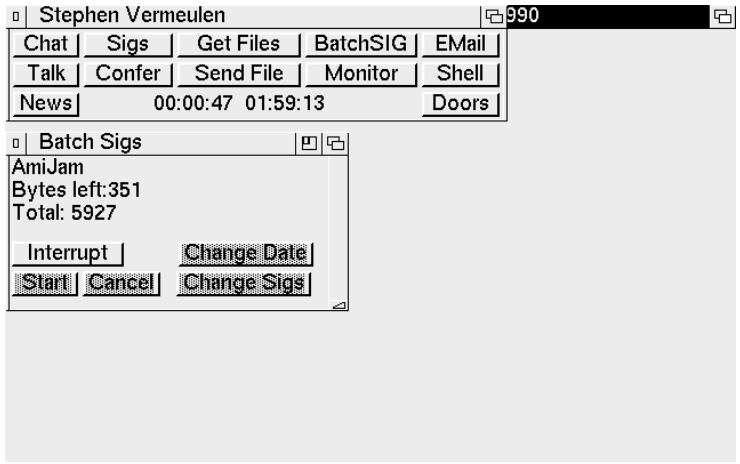
While your data is on the BBS (and this is true for most BBS software) there is little or nothing stopping someone who has access to the BBS machine from copying it, deleting it, altering it or directing it to another person. The only way to protect your data from alteration or render it useless in the event it is copied or directed to some other party is to encrypt it in some way. Note that this does not protect you in the event someone decides to delete your data so that the recipient never gets it (which might cause you some grief).

There are a number of freely distributable utilities that you can use to encrypt a message or file that is to be sent via a BBS's email system. There are a few things you might want to consider when selecting an encryption package. The first is the degree of security the package provides, this can be very difficult to evaluate if you don't have any cryptanalytic experience. The second is the package's portability: is it available on different types of machines? And the third is what key management facilities does it provide (after all if you have to make a telephone call to deliver the decryption key why not just send the message directly to the recipient's modem).

Fortunately there is one freely distributable encryption package that addresses the above problems and more. This package is called PGP (which stands for Pretty Good Privacy), it is well known and believed to be of high quality and versions of it are available to run on a large number of different machines. PGP also provides facilities to sign a message or file (to prove it came from you) and to verify these signatures.

The centerpiece of PGP is its use of the RSA public key algorithm. This system allows you to create an encryption key in two parts, one secret and one public. You give the public key to anyone, and with it they can encrypt messages and files for you such that the only way to decrypt them is to use the secret key. This technique solves the previously discussed problem of how to safely send the decryption key to the recipient.

The user profile feature (see Section 5.13.13 [User profiles], page 74) of the IceBBS email system can be used as a place to publish your public key so that others can download it to send you encrypted mail or files.



The Batch SIGs Function

There is one important thing that must be done while configuring IceTERM for the batch SIGs function to work properly, this is to set up the '`MESSROOT`' tool type (see Section 2.7 [Message Bases], page 10). If this tool type is not set up, the system will default to sending the messages into the '`RAM:`' disk and the important files that log when you last connected and downloaded messages will be lost when you next reboot, this will lead to re-downloading a lot of messages.

5.7.1 The OLR

To read, post and reply to the messages downloaded from the SIGs system you use an off-line message reader. This allows you to connect, download messages and then log off quickly minimizing connection time. There are two programs currently available for reading SIGs messages while off-line: '`IceOLR`'[14] and '`IceReader`'[15]. The old SIGs system, which is no longer in use, had three message readers: '`READ`', '`VBBSReader`'[16] and '`GPReader`'[17] as well as a separate trimmer program called '`AGE`', these are no longer useful and should be ignored.

IceOLR is documented and distributed separately from IceTERM as it tends to get updated at odd times. The IceOLR does contain all the functions of the on-line reader, plus it contains a number of additional capabilities that may never be put into the on-line reader because of

[14] '`IceOLR`' stands for Off Line Reader and its a freely distributable part of the IceTERM package.
[15] Written by Yannick Koehler, an IceBBS sysop from Quebec.
[16] Part of Ian Gunn's CanDo IceBBS support package.
[17] From Greg Pringle, an avid local user.

note that things like the data cache being enabled on some '040s and the serial port being used at too high a speed or too many ports being used at once or the handshaking in IceTERM or your modem not being set correctly can all lead to problems...

9.27 Bugs

Users of older versions of WorkBench quite often come across a bug in WorkBench in which two tool types keep getting merged into one when they attempt to edit them. The only known cure for this is to get a copy of a more recent version of the '`icon.library`' and '`info.library`'. If a you find that this does not fix the problem, reboot the system using a WorkBench with those newer libraries on it. This is fixed under AmigaDOS 2.0. Under AmigaDOS 2.0 you may experience a problem with snapshot not writing all its tool types to the icon, see Section 4.24 [Problems snapshotting], page 29.

button (in either column) is used to add the current message's author or subject to the kill filter that column controls. The '`Edit`' button is used to review your kill filters and to remove any unwanted kill entries so you can see those subjects or authors again. The '`Auth`' and '`Subj`' buttons are toggle gadgets that are used to enable and disable the kill filters (which you can do at any time). The names and subjects in your kill filters are stored in your '`MESSROOT`' tool type and when you open the on-line reader, or when you add another subject or author to the kill filter or when you edit a kill filter the kill filters will be sent to the BBS. The BBS then will screen out messages that match the activated kill filters and on those messages it only has to transmit the header across the phone lines (so the threading information is still valid), but you save time because the body of the killed message is not transferred.

5.6.12 Private replies

The '`Private`' button is not currently implemented but is intended to be used to mark a reply or posting as private to the addressee, for those networks like FidoNet which support *private* messages within a public conference area. I emphasise the word private because in these public networks the *only* way to ensure that your message is only read by the intended addressee is to send it in encrypted form (see Chapter 10 [Encryption], page 123 regarding the use of PGP for encryption).

5.6.13 Moderator functions

There are a set of extra buttons intended to be used by trusted users who have been granted moderator[11] access to some of the SIGs. If you have been granted moderator access to a SIG[12] you will find that the '`Move`', '`Delete`' and '`Perm`' buttons work, otherwise you will find that clicking on them just causes an error message requester to appear on your screen.

The '`Move`' button is used to move the current message from this SIG into another SIG. When you click on the button a list of all the SIGs on the BBS will appear, you can then select the name of the SIG you want this message moved to. The BBS will then copy the message over to the new SIG and will mark it as deleted from the current SIG. If you wanted to copy the message into the new SIG but leave it in the current SIG as

[11] As the name implies a moderator is someone who watches over the postings and replies in a newsgroup to make certain that the users are staying on topic and not causing undue pain and suffering to each other.

[12] Moderator access can be granted by the sysop on a SIG by SIG basis.

names can be a concern on FidoNet (see Section 2.4 [Basic Tool types], page 5), along with the presence of special characters[18].

One other feature was added for the use of IceTERM in a *family setting*, this is a password prompt. If you do not put a password tool type in the IceTERM icon then IceTERM will prompt you to enter a password for the BBS before it starts dialing. This actually was already there, except it would save the pasword into your icon tool types for future use, it now no longer saves the password. A feature like this deserves credit to the person who suggested it, but since that name might live in infamy I will be gallant about it and keep silent.

9.25 The serial port

The '`BAUD`' tool type is used to set the baud rate between IceTERM and your modem (see Section 2.5 [Basic Serial Port], page 7). If this item is not specified IceTERM will use the baud rate that you have set in the Amiga serial preferences tool. Most current modems are 1200 or 2400 baud, the newer MNP and V.42 modems use 9600 baud, and the more advanced (and expensive) modems can use 19200 and 38400 baud.

The '`HANDSHAKE`' tool type is used to select the type of handshaking that is to be used between IceTERM and your modem (see Section 2.5 [Basic Serial Port], page 7). If no handshaking tool type is set in the IceTERM icon then IceTERM will use the default you have set up in the serial preferences tool.

There are two methods of handshaking (see Section 4.6 [MNP error], page 20) that can be used with IceTERM, either '`none`' or '`7wire`'. The first ('`none`') is quite simple, it specifies that no handshaking is to be used so there is no way for the computer to tell the modem to slow down when its buffers get full (or visa versa). This is generally quite safe for 1200 and 2400 baud modems; however, it is *not* safe for MNP, V42 or higher speed modems. To disable handshaking use: '`HANDSHAKE=none`'.

There are some very old modems that do not support the '`7wire`' mode of handshaking (see Section 4.18 [Scripts will not run], page 27), for these you must use the '`none`' mode.

The '`7wire`' mode is usually to be preferred over '`none`'; however, there are some complications, you must have a serial cable that supports the additional wires[19] and your modem may need to be told to turn on the handshaking (see Chapter 3 [Modem settings], page 13) (look for

[18] If you want a reliable Internet address simplify your name so that it only contains letters and digits, and it uses periods or underscores instead of spaces (see Section 5.13.11 [Your address], page 70).

[19] This is usually the case with prefabricated serial cables these days.

5.6.8 Replying to a message

To reply to the current message click on the '`Reply`' button. When this is done IceTERM will start up the editor you have specified with the '`EDITOR`' tool type (see Section 2.6 [Your Editor], page 8) and preload the editor's buffer with the message you are replying to. The message may be formatted to indicate that it is quoted (see Section 5.6.9 [Quoting], page 41).

You can enter the text of your message into the editor and even include bits of the original message to help clairify your thoughts. When you are done you save the file (IceTERM has already given it a name) and exit from the editor. A requester will now appear on IceTERM's screen asking you if you really want to post this reply, and if you still do, click on the '`Yes`' button. IceTERM will then proceed to ask you to supply a new subject for your reply if you want the subject to be the same as the original message just hit return, otherwise enter the new subject. Unlike the posting of a new message IceTERM will not ask you for the name of the person it is addressed to, as a reply is assumed to be addressed to the author of the message being replied to. Once these questions have been answered the message will be sent to the BBS and entered into the current SIG as the most recent message and will be chained onto the list of replies to the original message.

5.6.9 Message quoting

When replying (see Section 5.6.8 [Replying], page 41) to a message you can choose to have the message pre-quoted before it is loaded into the editor. To do this you use the '`>`' and the '`--`' buttons. These two buttons allow you to edit the string that is inserted at the beginning of each line to quote the message and to customize the line at the beginning of the message that states who the original author was and on what date he made the posting. There is an additional multi-state button that selects between '`None`', '`Quote`', '`Header`' and '`Both`'. These modes specify:

- '`None`' no quoting or header is to be done,
- '`Quote`' only the quoting of each line is to be done,
- '`Header`' only the author/date header is to be included,
- '`Both`' both the header and quoting of each line is to be done.

Some other programs exist to do this sort of reply quoting, one of these is called IceIQle which stands for: Integrated Communications Environment Initial Quoter and Lexicographical Editorializer. This was

9.18 SIGs tool

`NSWINDOW` The window that displays the SIGs control panel,

`NSDATE` The window that displays the goto message by date or search string control panel,

`NSTHREAD` The state of the high mark control button (either '`New`' or '`Manual`'),

`NSALLSUB` The state of the button that selects between the list of all the SIGs or just the subscription (either '`All`' or '`Sub`'),

`NSQUOTE` The quoting mode control button's setting, a single digit:

- `0` no quoting will be done,
- `1` the message will be quoted by inserting the quoting string at the start of each line,
- `2` a header line containing the author and date of the original message will be written at the begining of the reply,
- `3` both the header line and the message quoting will be done.

`NSQUOTETEXT` The text that will be inserted at the beginning of message lines to quote a reply,

`NSQUOTEHEAD` The text that will be used to generate the introductory header on replies,

`NSAUTH` The state of the button that enables the author filter,

`NSSUBJ` The state of the button that enables the subject filter,

`NSMESSAGE` The window that displays the message text,

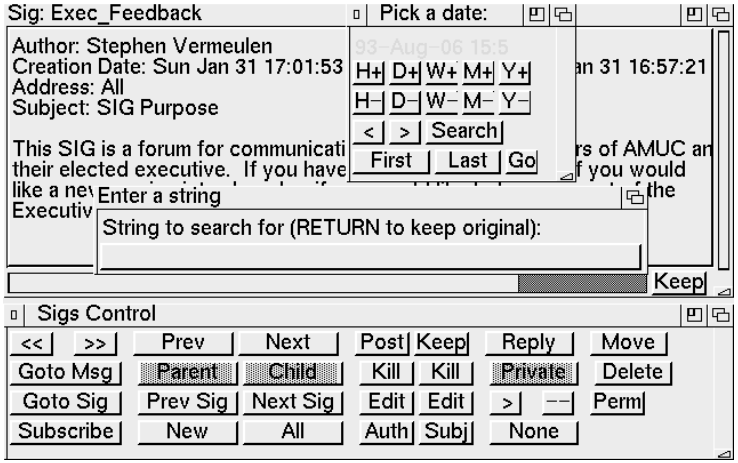
`NSSUB_LIST` The window that displays which SIGs the user is currently subscribed to,

`NSALL_LIST` The window that displays the list of all the SIGs that are available,

`NSPICK_LIST` The window that displays the list of SIGs to choose from for the goto SIG function,

5.6.5 Searching for a message

On top of the message browsing buttons described previously some additional message locating tools are accessed through the '`Goto Msg`' button. Clicking on this opens another mini-control panel containing buttons that can be used to go to the first message posted after a particular date and time or to search for messages containing the given text in the subject, author or even message body. The go to message window can be left open all the time, or opened and closed as needed. It always locates messages within the currently selected SIG, so to search several SIGs for the same thing you will need to open the Goto SIG window as well and use both windows.



Searching SIGs

To go to a message posted after a particular date or time you use the buttons in the top half of the go to message window. The buttons with the '`+`' in their label increase the target date (move it towards the future) and the buttons with the '`-`' in their label decrease the target date (move it towards the past). You adjust the date you are looking for by clicking on these buttons until the date that is displayed looks right and then you hit the '`Go`' button and the message reader will take you to the first message posted on or after the date and time you have specified. This has been set up in this fashion since one often seems to think in terms like "I saw something like that a few days ago.."

The go to message window also contains a pair of buttons marked '`First`' and '`Last`'. These are used to move you to the very oldest message in the current SIG, or the very newest respectively. No date or search string need be entered, just hit the appropriate button.

The go to message window also provides the ability to locate messages by a case insensitive search of their contents. These contents include the

9.15 The conference tool

The '`CONFHISTORY`' tool type enters a number which specifies the number of lines that are to be kept in the conference window's scrollable history buffer. A value such as 30-50 is appropriate.

The '`HAILSTRING`' and '`TAILSTRING`' tool types contain text or control characters you want sent with each paragraph you type in the conference window to identify your messages (see Section 5.8 [Conference], page 47). The first is the text you want put at the start of your message and the second is the text you want put at the end of your message. Remember to reset the pen type and colour to their default settings by the end of the message if you are using ANSI codes.

The '`CONFLOG`' tool type is used to specify the name of the file to which the multi-user conference should be logged when the '`Log`' button is pressed. If this is not present the file name will default to '`RAM:CONF.LOG`'.

The '`CONFWINDOW`' tool type is for setting position and size of the conference window of the conference tool, this is the window with scroll back where everything everyone in the conference says is written.

The '`USERWINDOW`' tool type is for setting position and size of the user's editing window in the conference tool. This is the window where the user is typing the message he wants to enter into the conference.

9.16 Get files tool

The following tool types are used by the get files tool:

`GETFILE_BTNS`
: The window that holds the buttons for the get files tool,

`GETFILE_FILES`
: The window that holds the list of files to choose from within the get files tool,

`GETFILE_DIRS`
: The window that holds the list of directories to choose from within the get files tool,

`GETFILE_CFRM`
: The status of the '`Confirm`' button in the get files tool,

`GETFILE_DESC`
: The status of the '`Describe`' button in the get files tool,

`GETFILE_NAME`
: The status of the sorting type button (by '`Name`' or by '`Date`') in the get files tool,

subscribed SIGs (the '`Sub`' button) mode. Most users will configure the on-line reader to the *read subscribed SIGs* mode.

5.6.4 Reading threaded

There is also a fully threaded message read facility available. This is accessed by the buttons marked: '`Prev`', '`Next`', '`Child`', and '`Parent`'. This may be used at any time, even while reading messages with the '`<<`' and '`>>`' buttons. In fact, the threaded read is perhaps most useful when you need to step backwards and read through the messages which led to a particular reply.

The BBS maintains several links between messages. When a new message is posted to the BBS it is entered into a particular SIG as an isolated[7] message. This message remains isolated in the SIG until someone decides to reply to it. At this point the new reply is entered into the SIG as a new message and is linked (threaded) to the message that it was a reply to, by the parent and child links. Now the original posting's '`Child`' button will no longer be ghosted; and when pressed, will take the reader to the first reply to it. Conversely, the reply's '`Parent`' button will not be ghosted; and when pressed, will take you to the original posting that prompted the reply.

If any additional replies are made to the original posting their '`Parent`' buttons will all point back to the one original message. However, the '`Child`' button on the original message still only points at the first reply. To see the other replies to the original message you use the '`Child`' button to go to the first reply and then use the '`Next`' and '`Prev`' buttons to look at the rest of the replies. All the replies to the original message are linked together in a ring, so by pressing the '`Next`' message button one sees the replies in the order of posting (from oldest to newest); while by using the '`Prev`' button one sees the replies in the reverse order of posting (from newest to oldest).

All the original postings in a SIG are also linked together in a ring by the '`Next`' and '`Prev`' buttons. Effectively the messages created by posting (rather than replying) form the backbone of the SIG and the messages created by replying to other messages form the ribs and meat[8] attached to this backbone.

[7] Despite the term *isolated* the message can still be read by using the normal non-threaded read, or by doing a threaded read along the root (posting) level of messages in the SIG by using the '`Next`' and '`Prev`' keys.

[8] Of course if you are vegetarian you might use the classical tree analogy where the messages created by posting form the trunk of the tree and the replies form the branches and leaves.

that both the door client program and its icon must be placed in this directory.

9.14 Files

9.14.1 The editor

'`EDITOR`' IceTERM allows you to select the editor you wish to compose email, file descriptions, and messages with. The default is '`ED`' and you will probably want to change that. The limitation is that the editor *must* be in your '`C:`' directory (at least under AmigaDOS 1.3), or you should specify the full path to the editor (see Section 9.4 [Tooltype rules], page 106). If you are running IceTERM on its own screen you should note that some editors will only open on the WorkBench, or even their own screens.

If you are running AmigaDOS 2.0 you may need to add the '`WBHACK`' tool type to get your editor to open on IceTERM's screen (see Section 4.9.3 [Message problems], page 24).

IceTERM also supports the new public screen feature of AmigaDOS 2.0 and higher. If your editor supports opening its windows on a named public screen you might be able to use this technique to get the editor to open on IceTERM's screen (see Section 9.14.3 [WBHACK], page 113).

9.14.2 The keepfile

'`KEEPFILE`' When you are reading messages in the feedback tool, you can save interesting ones by just hitting a button. These messages are saved in the file specified by this tool type. Please note that you should include the full path to the file, as in:

```
KEEPFILE=dh1:vterm/stuff/goodies.txt
```

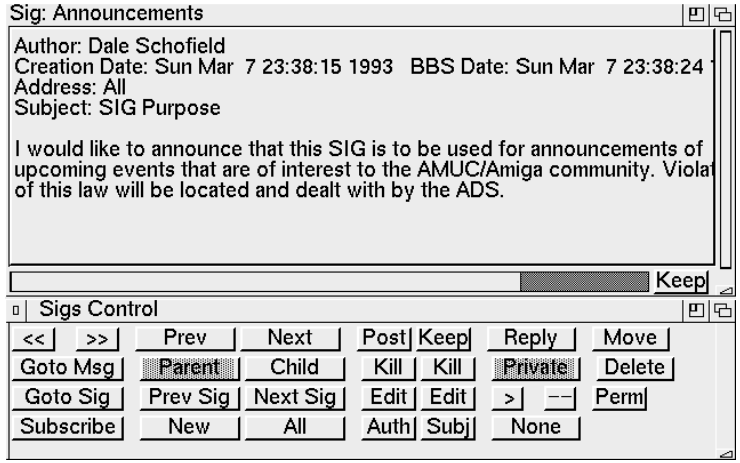
where '`goodies.txt`' is the file which will contain the saved messages.

9.14.3 WBHACK

This tool type can be used with editors that do not support public screens[16] to force the editor to open on IceTERM's custom screen. As this tool type uses a bit of a sneaky trick (it temporarily changes the IceTERM screen into a *WorkBench* type screen) there are some potential side effects you should watch out for. The most common is that

[16] Or on pre-AmigaDOS 2.0 machines that do not have the public screen facility available to be used.

a high volume news group this way can take up a considerable amount of time an alternative exists that allows one to quickly download SIGs and read them off-line (see Section 5.7 [Batch SIGs], page 44). The on-line reader initially opens two windows on the IceTERM screen. One of these is a text display window where the text of the current message is displayed for you to read and the other is a control panel that provides the additional buttons you need to use the SIGs system.



The On Line SIG Reader

As the windows for the on-line SIG reader are being opened by IceTERM a list of all the SIGs that are available on the BBS is being transferred to the directory specified by the '`MESSROOT`' tool type (see Section 2.7 [Message Bases], page 10). Once the file has been transferred the gadgets will unghost and the SIG reader will be ready for use.

5.6.1 Subscribing to SIGs

About the first thing you should do is to select the SIGs you wish to subscribe to (that is the ones you will be reading on a regular basis). To do this click on the subscribe gadget and a pair of list windows will appear.

9.8.4 Text colour

A tool type has been added to allow you to change the colour of the pen that is used to render all the text in IceTERM's gadgets and other displays. This is the '`TEXTPEN`' tool type. It takes a single number which is the number of the pen to be used, typically 1, 2 or 3 would be used. For example, if you have kept the default AmigaDOS 2.0 colour scheme, then you can make all the text in IceTERM black by using:

```
TEXTPEN=1
```

9.9 Running a script file

A script (see Chapter 8 [Script Files], page 99) may be automatically run when IceTERM is started either from the CLI or from an icon. In the tool icon use the '`SCRIPT`' tool type to specify the name of the script file you want IceTERM to run.

If you are starting IceTERM from a project icon, then the file associated with that icon (ie. the file that has the same name as the icon) will be taken as being the script file that is to be run, any '`SCRIPT`' tool types will be ignored.

9.10 Setting your clock to match BBS time

The SIGs function on old versions of IceTERM (pre v98) may have problems retrieving new messages for you if you do not keep your clock properly adjusted. If you don't have battery a backed up clock, the tool type '`SETCLOCK`' when set to '`yes`' will allow IceTERM to change your machine's system time to match that of the IceBBS system you are calling. The default setting is '`no`'.

If you are calling from another time zone you probably will not want to enable this feature.

9.11 Countdown and session timers

The '`UPDATERATE`' tool type is used to set the number of seconds between updates of the session timer and count down timer. To get the timers to change every second set this to '`1`'. The default is to update every 10 seconds. For users of unaccelerated machines that are trying to use high speed modems it is recomended to set this to a large value.

```
UPDATERATE=60
```

This will update the timer once per minute.

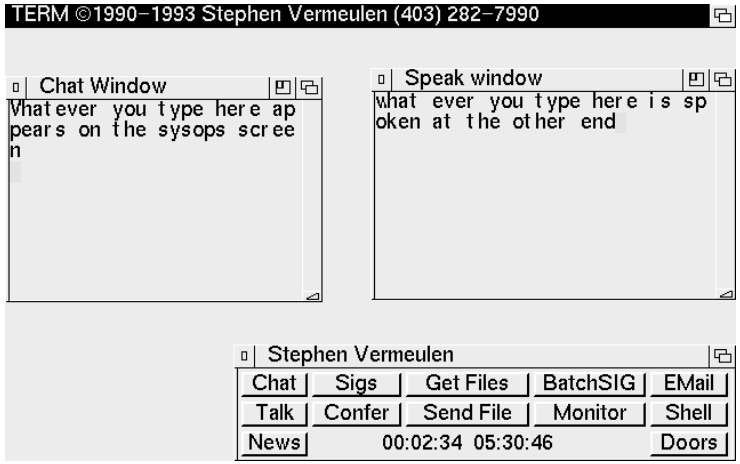
You do not have to stop what you are doing to read the message, it is safe to just click it into the background to be read later. Additionally, you will find that clicking on a line of test within the window will cause that line to highlight, this feature is not yet used for anything.

5.4 Keep buttons

A number of IceTERM's windows have a button marked '`Keep`'. This button is used to save the current contents of that window into your keep file (see Section 2.9 [Optional tool types], page 10). When you click on the '`Keep`' button the system file requester will appear, this has been preset to the name of the keep file that you specified with the '`KEEPFILE`' tool type (see Section 9.14.2 [The keepfile], page 113). If you just want to save the window's contents into this file (appended to the end), click on the file requester's '`OK`' button. If you would like to save the data somewhere else use the file requester to select the file it is to be appended to, or enter the name of a new file and one will be created for you.

5.5 Chat and talk

The chat and talk functions are similar tools which are used to communicate directly between the user and sysop.



The Chat and Talk Windows

Both functions are symmetric, when the window opens on your IceTERM screen a similar window opens on the sysop's computer screen. With the chat window, whatever you type into it will appear in the sysop's chat window and visa versa. Since both you and the sysop might start typing at the same time it is good practice to open a second chat

settings. The window position and size tool types all use the same format, they consist of the tool type name followed by an equals sign '`=`', followed by four numbers separated by vertical bar '`|`' characters. The first number is the x coordinate (in pixels) of the left edge of the window, measured from the left edge of the screen where the window should open. The second is the y coordinate of the top edge of the window, measured from the top edge of the screen, where the window is to open. The third and fourth numbers are the width and height of the window when it opens.

9.8 Screen control

IceTERM has the ability to run on its own custom screen. If you specify any of '`SWIDTH`', '`SHEIGHT`' or '`SDEPTH`' in the IceTERM icon's tool types array, IceTERM will open its own custom screen and all its windows will appear on it. This really helps to unload the WorkBench, so give it a try! The '`SWIDTH`' specifies the width of the screen in pixels, it must be at least 640 wide. The '`SHEIGHT`' specifies the number of lines on the display, if you select 400 you will get an interlaced display. '`SDEPTH`' is the number of bit planes to use for the screen, 1 gives you 2 colours, 2 gives you 4, 3 gives you 8 and 4 gives you 16. I strongly advise against using the 16 colour option, especially if you are running on an unexpanded or unaccelerated system.

9.8.1 Scrolling screens

If you are running AmigaDOS 2.0 you will find that IceTERM will support the scrollable screen mode. All that you need to do to make use of these screens that may be taller and or wider than the monitor is to set the '`SWIDTH`' and '`SHEIGHT`' tool types to be larger than the visible screen size[13]. In this fashion you can even run IceTERM on a screen as large (or larger) than 1024 by 800. The only thing to watch out for here is chip memory!

9.8.2 Colour palettes

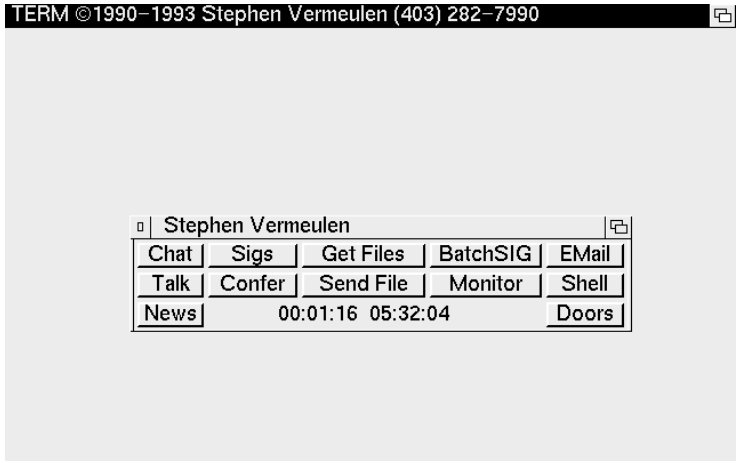
So that you can set up custom colours for your custom screen the IceTERM program recognizes the '`PALETTE`' tool type to specify a custom screen colour. If you are running a 2 bitplane (4 colour) screen you will need 4 lines of '`PALETTE`' commands. The '`PALETTE`' tool type is followed

[13] However, you cannot scroll a screen higher than 400 pixels in a non-interlaced display. Setting the SHEIGHT tool type equal to or greater than 400 currently yields an interlaced display.

5 Using IceTERM

Once you have dialed into and connected to a system running IceBBS software, IceTERM will change its window from the plain ASCII console window to one with a number of buttons in it. This is the IceTERM control panel and you use this to select which functions you want to use and to exit from IceTERM. The '`Quit`' function (which is used to exit from the BBS) is activated by either clicking on the close window gadget or by selecting the '`Quit`' item in the menu that is attached to the control window. It is also possible to exit from IceTERM by just interrupting the phone connection, by either unplugging the phone cable or turning off the modem. This is not the recommended way of exiting IceTERM since you will not be warned if there is still a background transfer taking place.

This chapter describes the functions provided by the control window.



The IceTERM Control Panel

5.1 Session timers

The two digital clocks show your total connection time and the maximum time left in this session (before the BBS logs you out). The connection timer (on the left) counts up from zero, while the time remaining clock counts (on the right) down to zero. IceTERM will beep you once a minute during the last five minutes of your session. IceTERM will also put up a requester and beep twice if your session has been idle for more that six minutes. To get the clocks to update at a different rate use the '`UPDATERATE`' tool type (see Section 9.11 [Timer control], page 111). The default update rate is about once every 10 seconds.

Craig Lever discovered it is also possible to use *environmental variables*[11] in the tool types. For example, if the variable '`editor`' is set as follows:

```
SETENV editor "C:ed"
```

The following tool type will define '`ed`' as the IceTERM editor:

```
EDITOR=$editor
```

Tool types that specify window snapshot information take a series of numbers separated by vertical bar characters[12]. For example

```
CHATWINDOW=0|63|561|109
```

specifies that the chat window should open zero pixels from the left edge of the screen, 63 pixels down from the top of the screen, and it should be 561 pixels wide and 109 pixels high.

Some tool types take a string of characters. In this case *all* the characters after the equals sign (which is effectively the last character in the tool type name) will be included in the string. This is important as the following tool types do *not* reference the same user account:

```
USER=Joe Doe
USER= Joe Doe
USER=Joe  Doe
```

In fact IceBBS will see these as three different accounts, a fact that can sometimes be confusing...

A number of configuration tool types take a single numeric quantity. This should be composed only of the digits 0, 1...9 and possibly a minus sign. Examples of these are:

```
TEXTPEN=1
UNIT=8
BAUD=19200
```

Most of these numeric tool types will perform some additional range checking on the number you specify, so sometimes you may not get exactly what you are asking for. For example '`BAUD=14400`' is not legal as not all serial devices can run at this rate (even though most high speed modems can transmit at it), for this reason the IceTERM might choose to use '`BAUD=9600`' instead.

[11] Environmental variables are variables that are maintained by AmigaDOS. Refer to your AmigaDOS manual for more information.

[12] The vertical bar '`|`' is sometimes known as the pipe character.

- The BBS may not be running the server for the door that you are trying to use, or you may not have enough privilege to run the door,
- You might have an old version of the door, this may be causing problems when trying to start the door on your machine or the server on the BBS, ask your sysop for an up-to-date version of the client,
- You might be trying to run a server rather than a client, remember that servers are for the BBS only.

4.24 Some windows do not snapshot

If you are having problems trying to get a window to snapshot to a new postition in IceTERM here are the things to look for:

- Make certain that the WorkBench window that contains the icon you started IceTERM from is closed. Under AmigaDOS 1.3 this is not important but under AmigaDOS 2.0 and higher the new file notification feature can cause some problems. Whenever IceTERM is updating the tool types in the icon it does so one item at a time, and can miss write attempts if the icon is currently being displayed by WorkBench,
- There are a couple windows in IceTERM which do not pick up their new snapshot locations until IceTERM is restarted,
- If you have duplicate tool types in the icon (perhaps from an earlier version of IceTERM), then when IceTERM snapshots it will only change the first matching tool type it finds. However, the routines which load the tool types from the icons when IceTERM is started will only use the last tool type they read from the icon. The result is that the updated tool type is ignored until the duplicate is deleted.

4.25 Garbage characters in the conference

Sometimes the contents of the conference may appear to *turn to greek*. This occurs when someone enters a '`CTRL-N`' character into a message to switch character sets. To restore the conference to the regular character set just enter a '`CTRL-O`' character in a message.

4.26 Data but no server message

This message appears in the title bar of the control panel window when you close a window that is receiving data before it is all sent. For example, if you close a text window (such as Section 5.3 [Message of the day], page 32) while it is still filling with text, you will get this message.

9 Tool Types

9.1 Icons and configurations

IceTERM normally[1] reads all of its configuration information from the tool[2] and or project[3] icons associated with it.

IceTERM has a number of tool types that can be placed in the IceTERM tool or project icons either by you or by IceTERM when you use the snapshot (see Section 5.2 [The main buttons], page 32) menu item. These are documented in several places within this manual. This chapter is to act as a reference for these settings. Note that some of these are not really intended to be user defined, but appear for completeness.

9.2 Starting from the WorkBench

If IceTERM is started by double clicking on the tool icon alone, then it will read just the tool types array of that one icon to determine how it is to be configured. If IceTERM is started by either double clicking on a project icon[4] or by extended selection[5] IceTERM will first read any tool types in the tool icon (if this icon in fact exists) and then will read the tool types in the project icon, note that if any tool types appear in both icons the values read last will override those read earlier.

9.3 Starting from the CLI

If IceTERM is started from the CLI it will look for a '`IceTERM.info`' file[6], and will load any tool types it finds there. It will load the icon files' tool types *before* scanning the CLI parameters (see Chapter 6 [From the CLI], page 95), so the CLI may be used to temporarily override the icon settings. IceTERM is persistent in its searching for an icon, it will look

[1] With the exception of the occasional user who starts it from the CLI.
[2] A tool icon is the icon that WorkBench has attached to a program so that the user can run or manipulate it in some way.
[3] Project icons are icons that are attached to data files (such as text files, pictures, sound samples, songs and IceTERM scripts).
[4] For which the default tool is set to IceTERM.
[5] The user single clicks on one icon first and then while holding down the shift key double clicks on the other icon. The two icons are the IceTERM program's icon and the project icon of a script file.
[6] This is how the IceTERM icon appears to a CLI user.

4.16.2 Strange things are happening

Earlier versions of the Applied Engineering modem would not handle multiple character reads correctly, IceBBS and IceTERM[19] do a lot of this for reasons of efficiency, new versions of the modem's ROM software fix the problem.

This problem is characterized by problems that occur immediately upon connecting to the BBS, the control window will appear and perhaps one or two things will appear to work but then IceTERM will stop functioning.

4.17 Enforcer complains about IceTERM

The Enforcer is a developer's MMU[20] utility which monitors memory accesses by the CPU and reports possible illegal accesses. There is one function that will cause Enforcer to complain when running IceTERM under AmigaDOS 1.3, this is the Talk function. The 1.3.3 update to AmigaDOS fixes this. If you experience any enforcer hits while running IceTERM please let me know (especially if you have a method of repeating them).

4.18 The script file will not run

Certain older modems (particular 1200 baud modems) either do not respond fast enough or do not like to see a carriage return followed by a line feed. When you try to use a modem like this IceTERM may send it a dial command and the modem might not seem to respond at all. To fix this change all '`crlf`' and '`lf`' commands in the script file to '`cr`' or '`char 13`' commands and add some '`delay`' commands between the '`send`' and '`cr`' commands (see Section 9.25 [Serial port], page 119).

I once used an old 1200 baud modem for testing and it would not respond if CTS/RTS (7 wire) handshaking was used.

4.19 IceTERM crashes after I post a message

If you find that the message reader locks up or crashes after posting or replying to a message – and you are running IceTERM from the Work-

[19] I used to have a version of IceTERM that was patched to do single character I/O but this version is no longer available.

[20] You must have the full version of the 68030 or 68040 to have an MMU. Many accelerator cards use the *EC* or *LC* CPUs which do not have a fully functional MMU.


```
;the only way we get here is if the modem has connected
;and sent us a CONNECT message, IceTERM picks this up
;and jumps here.
;
startproto
  beep     ;let the user know we've connected
  exit
```

The following script file segment dials two BBS machines, it illustrates the '`name`' and '`password`' commands:

```
redial

  send ATZ
  cr
  wait OK
  ;
  ; set the user name and password for the first BBS
  ;
  name "An Amiga User"
  password "this is a password"
  send ATDP2842048
  cr
  delay 100
  ;
  ; set the user name and password for the second BBS
  ;
  name "Zorro, the Amiga Bus"
  password "this is a different password"
  send ATDP2845625
  cr
  delay 100   ;10 seconds delay
  goto redial
```

8.5 Stopping scripts

Script files may be interrupted while they are running by holding down an '`ALT`' key and then hitting the '`ESC`' key. Note that in older versions of IceTERM the abort key was the '`ESC`' alone, this caused problems when trying to access a BBS that was using TrapDoor as its front end, so the key press was changed to include the '`ALT`' qualifier.

- the last is to include the '`name`' and '`password`' commands (see Section 8.2 [Script commands], page 99) in your dialing script file. You put these commands immediately before the command that dials the BBS. This way one script can dial several BBS systems, on each of which you can have accounts with different names and passwords.

4.12 The talk window opens and closes

You need to have these files in your system:

```
LIBS:translator.library
DEVS:narrator.device
```

Often people strip these from their system to save space on the boot disk. Also, it appears that these no longer come with AmigaDOS 2.1 or 3.0[16]. It is safe to run IceTERM without these present, but you will not be able to page the sysop[17].

4.13 IceTERM wants to write to my boot disk

IceTERM needs to create some temporary files from time to time. It puts these files in the directory '`T:`'. By default this directory will be the '`:T`' directory on your boot disk. You need to add to your startup sequence a command like:

```
ASSIGN T: RAM:
```

This tells your Amiga to put temporary files into the RAM disk. Alternatively, you can edit the tool types in the IceTERM icon and add an entry called '`TEMPDIR`', pointing to the directory you wish to use.

4.14 IceTERM will not hang up the modem

What usually happens here is that when you exit IceTERM with the '`Quit`' menu item, the modem still stays on-line, when you really wanted it to hang up the connection.

The problem here is that your modem has been set to ignore the '`DTR`' line, when IceTERM exits it closes the serial port which should drop the '`DTR`' line. This should cause the modem to drop the line. However,

[16] If this is the case you can copy them off your older version of AmigaDOS, try to use the ones from version 1.3.3

[17] Also, the sysop will not be able to page you either, this is a neat feature, its fun to be downloading stuff from a BBS, demonstrating a neat program to your friends and suddenly the computer starts talking to you.

`cr` The '`cr`' command is used to send a carriage return to the serial port, this is usually used immediately after each '`send`' command that is used to send commands to the modem. The reason[1] this is separate from the '`send`' command is so that you can insert a '`delay`' or '`wait`' before the '`cr`' command is sent since some modems do not like to be sent commands too quickly,

`crlf` The '`crlf`' command is used to send a carriage return and then a line feed to the serial port, this may be used immediately after each '`send`' command you use to send commands to the modem[2],

`lf` The '`lf`' command is used to send a line feed to the serial port, really just here for symmetry considerations,

`char N` The '`char`' command will send a single ASCII character (identified by its ASCII code number '`N`') to the serial port. The command: '`char 10`' is the same as '`LF`' and '`char 13`' is the same as '`CR`',

`print STRING`
The '`print`' command will cause the string to be printed to the display window, without sending anything to the serial port. This is useful for printing status messages telling you what the script is currently doing. It is also possible to get the screen to flash by typing a CTRL-G into the string to be printed (in some editors),

`;comment` Comments in the script file are initiated with the '`;`' character. All the characters that follow until the end of the line is reached are considered to be part of the comment. Blank lines are allowed in the script if you wish,

`deadbeat` This command specifies how long a script file should loop or wait before stopping and shutting down IceTERM. For example, if you execute the following line in a script file:

```
deadbeat 300
```

then if the script is still executing (or the terminal is waiting for the BBS to wake up still) 30 seconds later then the terminal will shut down. The parameter is the number of 1/10ths of a second (like the '`delay`' command) to wait before closing down IceTERM. If you issue a second dead beat

[1] This also makes it possible to build very long command strings, although why you would need to is beyond me.

[2] Some older modems do not like the '`crlf`' command you should use the '`cr`' command instead.

```
STACK 10000
```

just before running IceTERM, or if running IceTERM from an icon adjust the stack setting from the WorkBench's '`Icons, Information`' menu item,

- by trying to use an editor that is not in the '`C:`' directory, check to see if the editor is actually in '`C:`'[14],
- it is possible that you are out of RAM and the editor cannot be started,
- some editors are particular about the screen font, so if you are running AmigaDOS 2.0 and have changed the screen font,
- some editors need a larger stack setting and perhaps depend on the current directory, if this is the case you can run the editor from a script file such as this:

```
.key file
STACK 20000
CD RAM:
myeditor <file>
```

- sometimes the editor actually has opened but it is just hidden away on another screen. If this is the case you want to read up on the '`WBHACK`' tool type and about public screens (see Section 2.6 [Your Editor], page 8),
- some editors just don't seem to want to be spawned by the Execute() function in AmigaDOS, so if all else fails try another editor (perhaps even '`Ed`') that is known to work with IceTERM.

4.9.2 My postings never appear on the BBS

This could be because you are using an editor that detaches from the CLI. The editors: '`AZ`' and '`CygnusEd`' are known to do this. Try a different editor. Actually, IceTERM can now handle these editors too, just wait until you are finished editing your message and have saved the file *before* clicking on the IceTERM requester that asks you if you want to post the message.

IceTERM tells the editor to edit a file called something like '`tempfile`' when the editor is started. The results of your editing must be put back into that file. This is easily done as most editors have two ways of saving your work, the *save as* (where you must tell the editor the file name to use) and the *save* function. You will normally want to select the *save* function and then exit the editor. Note also that

[14] Or include the full directory path to your editor, see also Section 9.4 [Tooltype rules], page 106.

8 The Script File

IceTERM supports a script file which can be used to make the modem automatically redial until you are logged in, for dialing a number of different lines on a single BBS or for dialing a number of BBS systems.

8.1 Script parameters

The commands for the script file must appear in lower case, they are generally separated by spaces or are placed on new lines. In the following command description the items in uppercase are parameters for the commands, there are three types of parameters:

`STRING` this is some ASCII text that is to be processed by the command. It may include letters, numbers and symbols, but if it includes any space characters the string must be enclosed in quotation marks. For example, this may be used to specify the modem dialing command,

`N` this is a numeric parameter, a number from 0 to 32767, this is used for specifing delays and ASCII character codes,

`LABEL` this is a label that indicates a point in the script file to which the script can jump in certain conditions, labels can be any alpha-numeric string (as long as they are unique and not the same as one of the command names, see Section 8.2 [Script commands], page 99).

8.2 Script commands

The following are the commands that the script language understands:

`send STRING`
: The '`send`' command sends the string of text that follows it to the serial port. '`STRING`' may be a single word such as: '`Xyzzy`' or it may be a word or words enclosed in double quotes ('`"`'), such as: '`"this is a sample STRING"`'.

`delay N`
: The '`delay`' command delays for '`N`' tenths of a second ('`N`' is a number). For example a '`delay 30`' would delay the script file for about 3 seconds. A common script file error is to use a '`wait`' command rather than a '`delay`',

`goto LABEL`
: The '`goto`' command causes the script to jump to the indicated label in the script (either fowards or backwards) and

IceTERM program's icon for a '`BAUD`' tool type. Then if IceTERM was started from a project icon it looks for a '`BAUD`' tool type in the project icon and uses that baud rate. Finally, it checks to see if it was started from the CLI, and if it was it looks for a '`-b`' command line switch and uses that baud rate.

Complex or what? Actually, this sequence is always applied in the same order for all configuration parameters:

- First accept any Amiga defaults[10],
- Second look for a setting in the IceTERM program's icon (if one is available),
- Third, if IceTERM was started from a project icon, look in the project icon for any settings,
- Finally, if IceTERM was started from the CLI, scan the command line and use any settings found there.

4.8 I get massive quantities of line noise

This may be a problem with your phone lines or the loading you are placing on them. If you are experiencing troubles with a high speed modem you should try disconnecting all additional phone line devices[11] that you have to see if that makes any difference. Once, while testing a pair of V.32 modems (at the time $1600 a piece) I could not get more than about 4800 baud out them, I finally tracked the problem down to a $19 phone that was sharing one of the lines.

Phone lines are quite amazing things, they are light weight, unshielded, use very light connectors and work well most of the time. Once, when the AMUC Express was moved, all the newly installed phone lines (7 of them!) worked well with the exception of one. This was the infamous 5224 line, and it naturally had to be the FidoNet line at the time. After a week or so this line started causing all sorts of troubles because it would generate a large amount of line noise (which you could hear if you placed a phone call). It took two service calls from the phone company to figure it out, turns out that an isolation jumper that connects the input side to the output side on the distribution block inside the house was not making a good connection. This little one cent, push on, spring clip brought a big BBS to its knees!

It might also appear that you are having lots of line noise slow down your connection when the problem is really the result of having the wrong handshaking (or incorrect modem settings, see Chapter 3 [Modem

[10] As set by the various preferences programs.

[11] Such as other modems, phones, FAX and answering machines.

7 Unattended Use

IceTERM is highly interactive by nature, however the batch SIGs tool is suitable for unattended use. It is possible to call IceTERM from a cron program or looping AmigaDOS script file. This way you can have IceTERM call a BBS several time a day to collect new SIG messages for you to read with IceOLR. To do this you will probably want to include the '`deadbeat`' command in your script (see Chapter 8 [Script Files], page 99) to escape from troubled connections and you must also include the following tool type:

```
AUTOSTART=batch
```

Once the batch SIG download is done the BBS will wait until the line has been idle for about 5 minutes and then log you off. When this happens IceTERM will shut down and exit (it may wait for a requester to disappear first). Because of this 5 minute delay the automatic system is not yet suitable for long distance transfers.

If for some reason an IceTERM requester appears during your session (appart from AmigaDOS requesters like "disk full") the requester will be canceled after 20 seconds. There are a few special requesters that take upto 30 minutes to disappear, but these only appear when the editor would appear to edit some text, something that an unattended session would not be doing.

- Second, if the BBS hangs up on you after the modems have connected but before the control panel says you are logged in, it is probably a line noise problem[4]. Line noise (see Section 4.8 [Line noise], page 21) can affect the connection a number of ways, first it can lead to the two modems connecting at different rates. And second, it can cause trouble as the two ends of the connection try to start the protocol, this is indicated by a long period of modem light flashing and your name not appearing in the title bar. In either case you should just hang up and try again.

If your BBS session is interrupted at some point after you have logged in there is little you can do about it. However, both the file and SIGs downloading functions feature session resume capabilities, so by calling the BBS back and requesting those interrupted items again you will be able to pick up where you left off.

4.5 Error detected in MNP mode!

This error message can occur if your modem and the BBS are running in MNP or V.42 mode and the IceTERM and BBS have successfully negotiated to leave the error correction duties to the modems. Normally when this is done all the data is guaranteed to get from one computer to another without any errors occuring. However, when the phone lines are exceptionally noisy (see Section 4.8 [Line noise], page 21) or when some external event[5] interferes with the phone line the modems may lose the connection entirely. In this case it appears that they can send corrupt data back to the computer. Because of this both IceBBS and IceTERM do some extra checking of data packets[6] sent over these *error-free* circuits and when such an error is detected they stop communications[7] and warn the user.

Handshaking (see Chapter 3 [Modem settings], page 13) is another cause for this requester appearing. If there is a handshaking problem on

[4] For about a year one of my phone lines had about a 1 in 6 chance of being terrible, then the problem suddenly went away, phone company contacts told me that the local exchange had been upgraded around the time the problems disappeared.

[5] Such as the call waiting signal, or another person taking the phone off the hook and starting to dial (which is called the "Craig Lever's Sister problem").

[6] This was first suggested by a fellow from the Software Distillery I met at DevCon '91.

[7] This is about all that can be done since there is no packet retry logic in the MNP and V.42 connection mode at this point in time.

6 IceTERM from the CLI

The IceTERM program can be started from the CLI environment. CLI users will need to keep the '`IceTERM.info`' (icon) file around because this is used to specify the various parameters that IceTERM needs to run. As CLI users do not like their directories cluttered with '`.info`' files IceTERM will look for the icon in several places. When IceTERM is started from the CLI it will first look in the current directory for the '`IceTERM.info`' file[1], if it does not find it there it will then look in the '`S:`' directory and if it fails to find it there it will look in the '`C:`' directory.

The arguments IceTERM accepts from the CLI are the serial port device name, the unit number, the baud rate, the handshaking type and the name of a script file to be run. These arguments are optional. If you have an alternate serial board, you can use it by supplying the name of the appropriate serial device and the unit number. If you just supply the serial device name and not the unit number IceTERM will open unit zero. Finally, if you specify an alternate serial device and unit but no baud rate the system will use whatever baud rate is specified with the Amiga's Serial program (in the Prefs drawer).

Note: all the command line parameters are applied after IceTERM reads the configuration information from the tool icon, so if you wish to override the icon settings without changing the icon you may do so by supplying the appropriate CLI command line parameter. Also note that IceTERM first loads any Amiga defaults (such as preference baud setting) and *then* applies the icon parameters, and *then* applies the CLI parameters.

The syntax of IceTERM from the CLI is:

```
IceTERM [script] [-ddevice] [-uunitno] [-bbaud] +
     [-hhandshake] [-s]
```

where the '`[]`' indicate optional parameters. All parameters except the script file are identified by a '`-`' and a single letter, they are immediately followed by the parameter value (without any spaces in between). Parameters can appear in any order.

For example to use the ASDG serial card, unit number 1, at 4800 baud with no handshaking you would use

```
IceTERM -b4800 -u1 -dsiosbx.device -hn
```

To run IceTERM with a MNP modem connected on the Amiga's serial port at 9600 baud and use the script file called "demo_script":

[1] if you rename '`IceTERM`' to '`FarOutTerminal`' you will need to rename the icon to '`FarOutTerminal.info`' as well.

4 Trouble Shooting

This chapter contains a set of common problems (and some uncommon ones) along with some suggestions as to what to do to try to solve them. If you have not yet read the *Quick Start* chapter (see Chapter 2 [Quick Start], page 3), and you are having problems, please read it now.

4.1 IceTERM will not start

IceTERM refuses to start and immediately returns to the CLI prompt.

If you are running under AmigaDOS 1.2 or 1.3 you need to check your '`LIBS:`' to see if you have '`Arp.Library`' installed. Check to see that you are not already using the serial port. It could also be that you are low on memory. In all these cases IceTERM should bring up a diagnostic requester.

4.2 I can't quit out of IceTERM

The quit command is accessed from a menu on the IceTERM screen. Often[1] the window to which this menu item is connected will be hidden by other windows. Look around for the small control panel (with the various IceTERM function buttons), activate it (by clicking in it somewhere) and then hit the menu button and select '`Quit`' from the menu. This window also has a close window button, you can click on it rather than using the menu item if you like.

4.3 IceTERM connects then quits

The initial terminal window (titled: "ASCII Window", where the modem commands appear) goes away then reappears instead of the control window. The control window (with the various function gadgets of IceTERM) may actually flash briefly onto the screen before the ASCII terminal window reappears.

[1] Especially when running from the WorkBench.

5.17.10 Programming doors

There are two different programming environments for creating IceBBS doors in: a compiled language such as C or else in ARexx. In either case additional programming information, including example source code for a working client and server, is provided on the distribution disk sent to sysops. For the serious C programmer the '`toolkit`' archive contains what is needed, while for the ARexx programmer the '`RexxDoorKit`' contains what is needed. A simulator program is included that allows one to develop door clients and servers without needing a IceBBS and IceTERM program running on the development machine.

Generally speaking the ARexx based doors are much easier to write, but the end result is not as glamourous as those written in C. This is because ARexx has little built in support for Amiga graphics, some of the additional ARexx libraries can help fill this gap.

```
AT&F1
ATY0
AT&W
```

One possible problem with this modem is that IceTERM seems to be able to send commands, from the dialing script, too fast for the modem to handle. So you might want to increase the '`DELAY`' settings in any dialing scripts (see Section 8.2 [Script commands], page 99) you use.

3.6 Modem problems

The most common problem people have with IceTERM is to do with the settings of their serial port and the modem's serial port related settings. Of these the key issue is the use of hardware[1] handshaking, which is essential when you are using baud rates higher than '`2400`'. The most common problems are:

- Not enabling the hardware handshaking in IceTERM. This is done by including the '`HANDSHAKE=7`' tool type in the IceTERM icon,
- Not telling the modem to use hardware handshaking. This one can be quite tricky, especially on the earlier v32 and v32bis modems (such as the Dual Standard). These modems were not shipped with handshaking enabled, and in order to get the right handshaking mode turned on you had to send two modem commands '`AT&H1`' and '`AT&R2`'. The later v.fast and v34 modems usually have a factory default setting '`AT&F1`' that sets up the correct handshaking[2],
- Telling the modem to use software handshaking. This will not work with IceTERM[3] since it needs a full 8-bit data path and the software handshaking removes two of the characters for its own use. Software handshaking is also called XON/XOFF handshaking, and sometimes CTRL-Q/CTRL-S.

[1] Also called 7 wire.

[2] Although these modems usually add another factory setting designed for use with the Macintosh that selects the wrong type of handshaking.

[3] In fact it will not work well with most normal terminal programs when you are downloading binary files.

`Scroll on/off`
: This is a cycle gadget that enables/disables the scrolling of the text list as new messages are added. This is useful if you want to scroll back to reveiw something for a bit,

5.17.8.5 The Pick and List Channel windows

The Pick a Channel (opened by Pick Channels) and List of Channels (opened by List Channels) windows have the following features:

List of channels:

- double clicking a channel name in the list will cause that channel to be inserted into the Pick a Channel window,
- the '`Add to Pick List`' button does the same thing,
- the '`Keep to file`' button allows the contents to be saved to a file for later editing.

Pick a channel:

- double clicking on a channel name in the list will ask the server to allow you to join that channel and another channel window will open,
- the string gadget allows you to enter a channel name by hand (rather than picking it from the list of channels)
- the '`Delete`' button deletes the currently highlighted channel from your preferred channels list
- the '`Save`' button allows you to save the list to disk so it is available the next time you start IRC.

5.17.8.6 General IRC Tips

All of the IRC windows support '`TAB`' key cycling through the gadgets. The gadgets you cannot tab cycle to all have keyboard equivalents.

Note that MUI also supports '`ALT-TAB`' cycling through all the windows of one application, this can be *quite* useful for something like IceIRC if you are short on screen real estate.

Note that like other IceTERM functions you can use other IceTERM tools at the same time as the IRC client, in fact you can even use more than one IRC client at the same time.

5.17.8.7 IceIRC tool types

The IRCclient takes two optional tool types in its icon:

3 Modem Settings

This chapter contains some suggested settings for different brands of modems. If you are using another brand of modem (particularly a high speed one) please let me know what settings you have found useful.

I have set up the suggested configurations so that you can just send the sequence of commands to your modem once, saving the settings in the modem for future use. Modems are designed to store your preferred settings in some form of non-volatile RAM, so that even if you turn the modem off these settings will still be there. This is a *good* thing to do, since it means you no longer need to put any modem specific commands in your dialing scripts (except to perhaps reset the modem before dialing).

3.1 USR Dual Standard modem

This is a tricky modem to set up as the factory defaults are not very suitable to high speed serial port connections. Here's what to set:

```
ATB0
AT&H1
AT&R2
AT&K3
AT&B1
AT&A3
ATX6
AT&W
```

Then you should be able to setup IceTERM with the following tool types:

```
BAUD=19200
HANDSHAKE=7
```

If you are running an accelerated Amiga or using a serial port on an expansion board you might want to try '`BAUD=38400`' instead.

3.2 Supra FAX Modem V.32bis

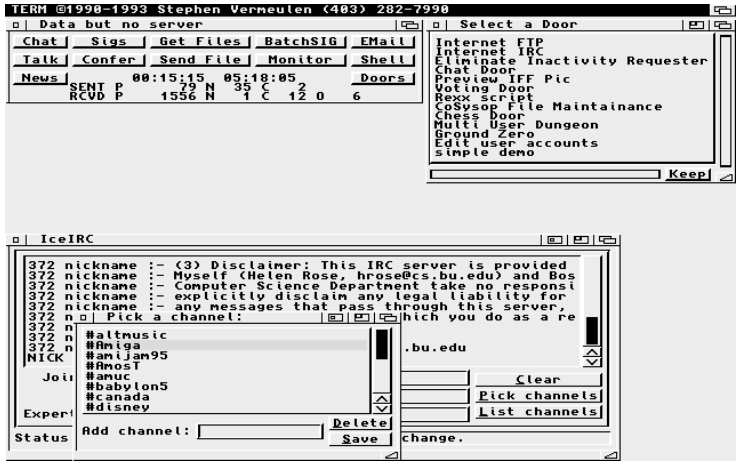
This modem will normally be shipped almost correctly set, the manual claims it is set to '`AT&F2`' unless you bought the Macintosh package; however, you should check to make certain...

```
AT&F2
ATW2
ATS95=3
AT&W
```


Or you could get a successful connection, at which point the window's contents will change.

5.17.8.3 Joining a Channel

Now you are in the system control mode. This window will soon display the login message for the site you are trying to reach. This window has a scrolling list at the top where messages from the IRC server are displayed and below that are three string gadgets and three buttons.



The IceIRC Door - Main Control Pannel

The string gadgets have the following functions:

`Join Channel`
: enter the name of the IRC channel you want to join and hit return, this will then attempt to get you into that channel. To join the '`#amiga`' channel just enter '`#amiga`' and hit return,

`Nickname` To change your nickname, just edit it here and hit return,

`Expert Command`
: This allows one to enter any IRC command directly, however, you have to know what the commands are and you have to get the formatting correct. So don't use this. Its really here for testing and future development,

The buttons are:

`Clear` Clears the scrolling list,

`Pick channels`
: Pick the channels you want to chat in. This is the preferred way of joining a channel,

standard temporary directory '`T:`'. The only problem you might find with this is that the '`T:`' directory may be assigned to a spot on your boot disk, which is probably write protected.

The '`KEEPFILE`' tool type is the name of the file to save useful messages in. IceTERM will automatically *append* to this file each item that you decide to keep. This will default to a file in '`ram:`' called '`keepfile`'. If you want a convenient way of saving useful or interesting things you should change this to point to a permanent storage place. Most of the windows in IceTERM have a '`KEEP`' button that writes their contents to this file.

The '`SCRIPT`' tool type specifies the name of the script file you want to run when you double click the IceTERM icon. There is no default to this tool type, IceTERM will not run[18] a script file unless this is present. A sample script file will probably be provided by your BBS sysop or local user's group, the provided sample script file in the archives I ship out[19] is set to dial my BBS, so take care, it is probably long distance! Note that if you do not specify a directory path[20] as part of the script file name the script file will be assumed to be in the same directory as the IceTERM icon.

2.10 Double click!

Well if you've read the previous section, considered some of the things in it and checked the tool type entries for your copy of the IceTERM program you are now ready to double click the IceTERM icon.

After doing this one of two things will happen[21], either the script will start running and you will eventually be connected to and then logged into a IceBBS based BBS, or IceTERM will open a window and just sit there. In the latter case you can type a modem dial command and call a IceBBS based BBS, when the two systems connect you will be logged in automatically and you will get the normal IceTERM control panel.

[18] Of course this is not really true either. If you start IceTERM from a *tool* icon without a '`SCRIPT`' tool type then IceTERM will not start any script files up. But, if IceTERM is started from a *project* icon it will attempt to use the project file as its script file.

[19] Your local BBS sysop may have modified it to dial his BBS already.

[20] This is programmer's speak for directory or disk name.

[21] Of course if some unexpected error is encountered you may get a diagnostic requester from IceTERM instead.

5.17.8 IceIRC door

What is IRC? IRC–Internet Relay Chat–is a real-time, text-based, conferencing system for the Internet. It allows a large number of people to chat at once about a large number of topics. It is real-time because within a few seconds (usually) of you typing a new message into a channel it is visable to all the other people who are viewing that channel.

Typically there might be five to ten thousand people connected into the IRC at any one time. There might be several thousand different topics being discussed, some might only have one or two people, some might have fifty.

IRC has been extended to provide lots of other services (like file transfer) over time. The current version of IceIRC only does the basics, but it's enough to start.

5.17.8.1 Installation

To install the client door on your system you just drag the IRC-Client icon into your '`Doors`' directory (the place the '`DOORDIR=`' tool type points to) and that's it. You will also need to have installed MUI.

There is a default list of IRC server sites called '`IRC.Sites`' that may come with the archive to make setup a bit easier, just drag it into the door directory too. There is another file called '`IRC.Topics`', drag it into the door directory too. This is only a partial list of the topics on IRC but its a convenient start.

5.17.8.2 Starting IceIRC

To start the IRC door just click on the '`Internet IRC`' item in the list of Doors. A window similar to the one in the following picture will appear:

you remember to save[16] your messages and close the editor *before* you answer the '`Do you want to post?`' requester. For example you might use:

```
EDITOR=dme
```

If you are running IceTERM under AmigaDOS 2.0 or higher then the custom screen that IceTERM opens will be a public screen. This screen has the name '`ICEBBS-TERM`'. If you use an editor that supports public screens you should be able to get the editor to appear on IceTERM's public screen. Different editors will probably use different ways of finding out what screen to use. In the case of '`Ed`' you can use:

```
EDITOR=ed window "RAW:0/0/640/200/Edit/SCREENICEBBS-TERM"
```

Note that you cannot put a space between the word '`SCREEN`' and the '`ICEBBS-TERM`' name. Also note that capitalization is significant here!

Other editors exist that support public screens, as I learn of them I will add the appropriate command to this section, if you use one that is not listed here please send me the tool type that you use.

The XDME editor from Fish Disk 776 uses public screens, the tool type would be:

```
EDITOR=xdme -ps ICEBBS-TERM
```

this editor has the odd feature that if you already have it running elsewhere on your system it will not fire up a second copy of itself and so, in this case, its window will always open on the screen the first copy was running on. Newer versions of '`xdme`' add the '`-n`' switch to prevent this.

TurboText, from Oxxi, supports public screens. If you use TurboText as your editor, the tool type would be:

```
EDITOR=TTX SCREEN ICEBBS-TERM
```

GoldED, a shareware product, supports also public screens, a number of people have reported that it works quite well with IceTERM.

If your editor does not support public screens and you are running under AmigaDOS 2.0 you can force your editor to open on IceTERM's screen by re-enabling the hack that older versions of IceTERM used previously (and the current IceTERM's still use when running under AmigaDOS 1.3). You do this by including the '`WBHACK`' (see Section 9.14.1 [The editor], page 113) tool type in the icon.

[16] When IceTERM starts the editor it tells it to edit a file called something like: '`tempfile`', most editors have a feature which will automatically save under this original name. This is the save method you want to use, since that is the file that IceTERM will load to send to the BBS.

- the status line goes to '`Connecting...`'
- then after a few seconds you get a '`Connection refused`'

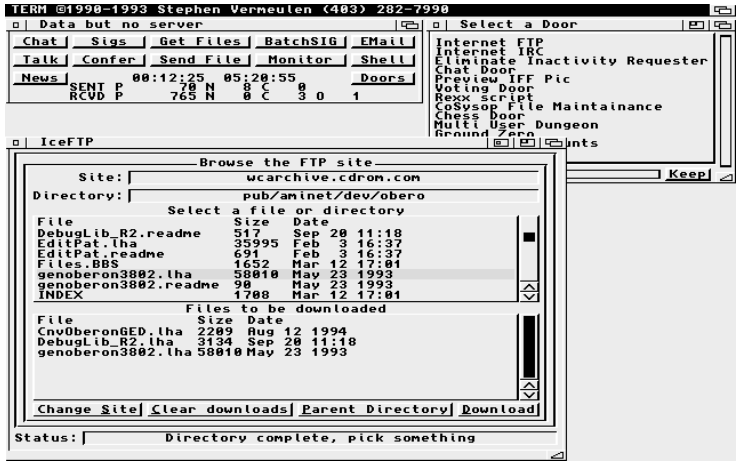
if this happens the site is probably busy and you should try some other time of day (many sites have restrictions during their office hours).

If you get a *Could not find site* type message that appears very quickly, it could mean that the BBS's link to the Internet is currently down.

Or you could get a successful connection, at which point the window's contents will change.

5.17.7.4 Browsing an FTP site

Now you are in the directory browsing mode. There is an information region at the top of the window that shows the name of the site you are connected to and the current directory on that site.



The IceFTP Door - Directory Listing

Below this is the listing of the files and directories in the current directory. You can double click on these, if you select a directory name the FTP client will try to take you into that directory (it is not uncommon for this to fail because you don't have permission to go there, or that the directory is on a disk that is currently not on line).

If you double click on the name of a file it is placed in the list of files to be downloaded.

The parent directory button takes you back up a level.

The change site button allows you to leave the site, to go to another one.

reference to all the tool types of IceTERM appears in a later chapter (see Section 9.1 [Tool types], page 105).

It should be noted that the tool type names (the part to the left of the equals sign) should normally be capitalized[11], and capitalization to the right of the equal sign is not significant. Also, the order in which tool types are listed is not significant, except when there are duplicate entries, in which case the tool type that is closer to the end of the list will be used.

The first tool types to set up are the '`USER`' and '`PASSWORD`' entries, these are used to specify your user name and password. The IceTERM program will automatically send these to the BBS[12] in order to log you in. If you do not already have an account there the BBS will create one for you. Both of these entries are limited to 63 characters[13] and capitilization is not important—that is, '`Fred`' is the same as '`fred`'. For example you might have:

```
USER=John Doe
PASSWORD=OnE oF MaNy SuCh!
```

2.5 Basic serial port

The '`BAUD`' tool type is used to set the baud rate between IceTERM and your modem. If this item is not specified IceTERM will use the baud rate that you have set in the Amiga Preferences tool. Most current modems are 1200 or 2400 baud, the newer MNP and v42 modems can use 9600 baud, and the more advanced (and expensive) modems can use 19200 and 38400 baud. *If you specify a baud rate higher than 2400 you normally must also select '`7wire`' mode for the handshaking, otherwise you will encounter a reduction in transmission speed or errors.* For example you might specify:

```
BAUD=2400
```

The '`HANDSHAKE`' tool type is used to select the type of handshaking that is to be used between IceTERM and your modem. If no handshaking

[11] This is optional now, but it is the standard recomended in Commodore's style guide.

[12] If you connect to more than one IceBBS based BBS and wish to have a different name or password depending on the BBS you can specify these in the script file (see Section 8.2 [Script commands], page 99) that dials you into the systems. Or you can use different project icons for each BBS you call.

[13] If you plan to use FidoNet email you should limit your name to less than 30 characters.

installed, but it may not be active yet. To activate it you can issue an ARexx command in a CLI such as:

```
rx "say 2+2"
```

this will cause the ARexx process to be loaded from disk and come to life.

The voting door allows the sysop to make up several questionaires or polls for the users of his BBS to answer. These polls take the form of multiple choice questions, your responses get logged into a file on the BBS. The sysop has a program for tallying the votes that he will run occasionally.

5.17.7 IceFTP door

What is FTP? FTP is File Transfer Protocol, a system for transferring files between computers on the Internet. It is very popular because there are a lot of big "anonymous FTP sites" on the Internet. An anonymous FTP site is like a big BBS that allows you to log onto it and download files without having to register for an account. The IceFTP door allows the user of IceTERM to explore this side of the internet from his Amiga without having to set up software such as AmiTCP and PPP or SLIP.

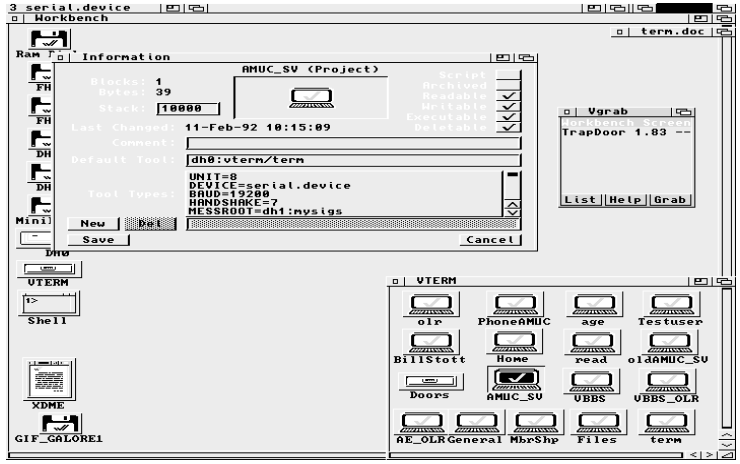
IceFTP will only be available on IceBBS systems that are connected to the Internet. Your sysop will probably have some information about this in the login message or the news area.

5.17.7.1 Installation

To install the client door on your system you just drag the FTP-Client icon into your '`Doors`' directory (the place the '`DOORDIR=`' tool type points to) and that's it. You will also need to have installed MUI[48].

There is a default list of FTP sites called '`FTP.Sites`' that may come with the IceFTP archive to make setup a bit easier, just drag it into the door directory too. It contains a short list of FTP sites.

[48] MUI (Magic User Interface) is a package written by Stefan Stuntz. MUI is a system to generate and maintain graphical user interfaces. With the aid of a preferences program, the user of an application has the ability to customize the outfit according to his personal taste. MUI is distributed as shareware. To obtain a complete package containing lots of examples and more information about registration please look for a file called '`muiXXusr.lha`' (XX means the latest version number) on your local bulletin boards or on public domain disks.



The WorkBench Info Window

2.4 Basic tool types

The purpose of the tool type array is to pass user configuration information to programs that are run from the WorkBench. This Amiga feature has not been extensively used by other programs, so it may be unfamiliar at first.

Once the information window is displaying the IceTERM icon you can scroll through the list with the little arrows to the left of the string gadget. These are the tool types you should pay attention to (in descending order of importance):

`USER=` your name (up to 63 characters[7]), this will be used to create your account when you log onto the BBS,

`PASSWORD=` your password[8] (up to 63 characters), since you do not have to type this in, choose a nice long one,

`BAUD=` the baud rate of your modem, for older modems this might be set to '`1200`' or '`2400`', if you have an MNP or v42 capa-

[7] You should avoid the use of special characters, punctuation marks and spaces within your user name, as these characters may be forbidden by, or cause problems with, various email systems (such as FidoNet and the Internet). Its best to stick with a short version of your real name (say 20 characters or less) with no spaces within it (substituting the underscore or period for spaces will usually work).

[8] If you do not include the password tool type IceTERM will prompt you for your password each time you log into the BBS, this is sometimes useful to keep your account to yourself.

task you wish to perform. The '`Rename`' button will prompt you for the new name and then will get the BBS to perform an AmigaDOS rename of the file. Note that you can only supply the new name of the file, you cannot include a new directory path in the name. The '`Delete`' button is used to delete the selected file from disk, a confirmation requester will appear after you click on it.

The copy function is a bit more complicated, you select the name of the file to be copied in the same way as you did for the rename and delete functions. However, the file copying process also needs to know what directory you wish the file to be copied to. To set this directory name you need to move to that directory and then click on the '`Set Dest Dir`' button. This directory name will then be placed into the status display area on the '`Copy to:`' line. Now to perform the copy you return to the directory where the file you want to copy is, select the file and then hit the '`Copy to`' button. It is because of this constant returning to the source directory when validating new uploads that the '`Home`' button was added.

The copy function has another feature, it can copy the same file to two separate directories at the same time. This is accomplished by using the '`Set Dest Dir`' to set the name of the first directory and the '`Set Dest Two`' button to set the name of the second directory. Then to copy to both directories at once you hit the '`Both`' button. This feature was added so that sysops could easily put a copy of each new upload into a directory containing new files, while at the same time placing copies of those files into the general file directories where they belong. Then the BBS can run a script file which ages out the new file directory as the files in there become a week or two old.

The major part of a co-sysop's file maintainance duties revolve around testing the files that are uploaded. To aid in this two methods are used. The simplest is the '`CRC`' button. This performs a very quick check to ensure the whole file matches a CRC that was computed on the uploader's machine. This is good enough to test for problems in transmission of the file (for example an incomplete file that was caused by the user logging out for some reason before the file send was fininshed) and only takes a second or two to run. Unfortunately this cannot test the inner workings of a file for correctness, for example one often finds users uploading incomplete or damaged archives.

To perform this sort of testing one needs to use the *archiver* buttons. There are four of these in the bottom row of buttons. The first is a multi-state button that is used to select the archiver that is to be used to test the file. The list of archivers that are available for use is determined by the sysop when he configures the remote file door's server.

2 Quick Start

The purpose of this section is to provide all you really need to know to install and use IceTERM for the first time, a few minutes spent reading this section will be well rewarded.

2.1 Required files

Since IceTERM is freely distributed I do not have any direct control over the files you have received[1]. A basic installation requires two programs: IceTERM and IceOLR (see Section 5.7 [Batch SIGs], page 44). Strictly speaking IceTERM is the only one that is required, but IceOLR is used to read messages off-line and to manage the downloaded message base. IceTERM may also be distributed in a package called VBBSDisk, this package includes a number of other support programs (written in CanDo by Ian Gunn) and is meant to be unarchived onto a disk to build a complete terminal environment for new users (it was originally assembled for The Amiga Users of Calgary Society[2]).

As well as the programs (IceTERM and IceOLR) you will need their icon files. These programs are intended to be run from the WorkBench and take a number of configuration parameters from their icons, if you run them from the CLI you still need the icons, but you can hide the icons in '`S:`' or '`C:`' if you want.

2.2 The ARP library

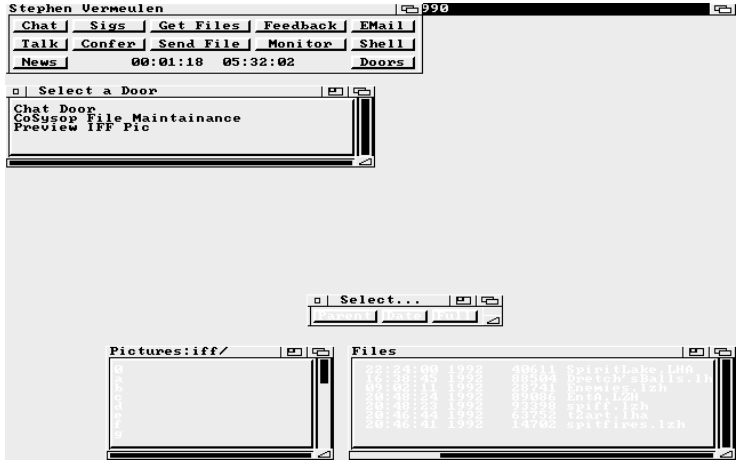
IceTERM uses the ARP[3] Library to provide the file requester if you are running AmigaDOS 1.3 or older. The ARP Library is a file called '`Arp.Library`' that should be in your '`LIBS:`' directory. If it is not present and you are not using at least AmigaDOS 2.0 IceTERM will display a warning requester and exit. To install it, copy the '`Arp.Library`' file from the distribution archive into your '`LIBS:`' directory.

[1] Of course if you get a copy of IceTERM directly from me this should not be a problem, see See Section 12.1 [Direct Updates], page 127, for how to do this.

[2] AMUC is one of the largest and most active Amiga Users groups in North America.

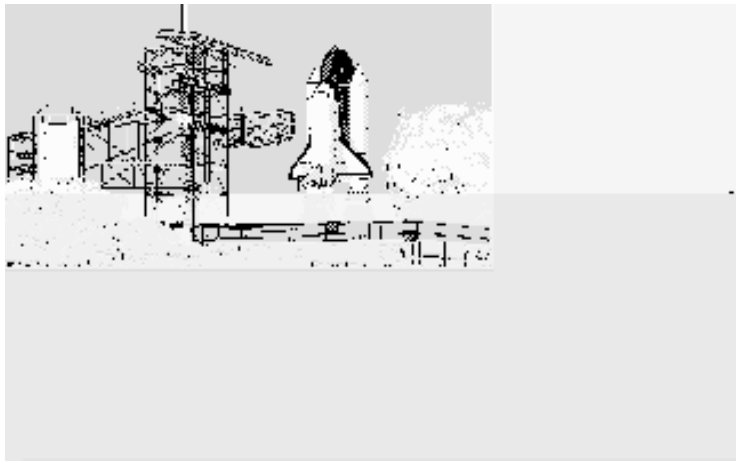
[3] ARP is the AmigaDOS Replacement Project, a set of CLI replacement commands developed by various Amiga Programmers and made available as freely distributable software. It was released twice, once for AmigaDOS 1.2 and then for AmigaDOS 1.3.

are quite similar to the ones used by the get files tool (see Section 5.9 [Get files], page 49).



The Picture Previewer

With these windows you navigate the directory tree in the same way as with the get files tool. However, instead of starting a download when a filename is selected the previewer will attempt to display the file as a picture. If it not an IFF ILBM format file it will display a short message telling you it cannot display the file. If the file is an IFF picture it will download it directly onto a small screen on your Amiga's display.



A Previewed Picture

In order to reduce the transmission time for the previewed pictures most sysops will prepare special miniaturized pictures. These will not have the quality of the original but they should give you an idea of the content before you spend time downloading. The file names of miniaturized pictures are usually given a '`.mini`' suffix. The size and number of

1 Introduction

This is the user's manual for IceTERM the custom terminal program for use with IceBBS, a special bulletin board system (BBS) for the Amiga. A BBS is a program that allows people to exchange messages, mail and files electronically, usually over the telephone lines via devices called modems. Modems convert information from the digital form within the computer to an analogue form suitable for transmission along a phone line, and then reverse the process at the receiving end. A terminal program allows the user of a computer to operate his modem and to send and receive information from a remotely located BBS computer.

The BBS system known as IceBBS and its matching terminal program called IceTERM[1]; together, they provide a unique graphical interaction between the user and the BBS computer.

The IceBBS to IceTERM communications system was designed with several goals in mind:

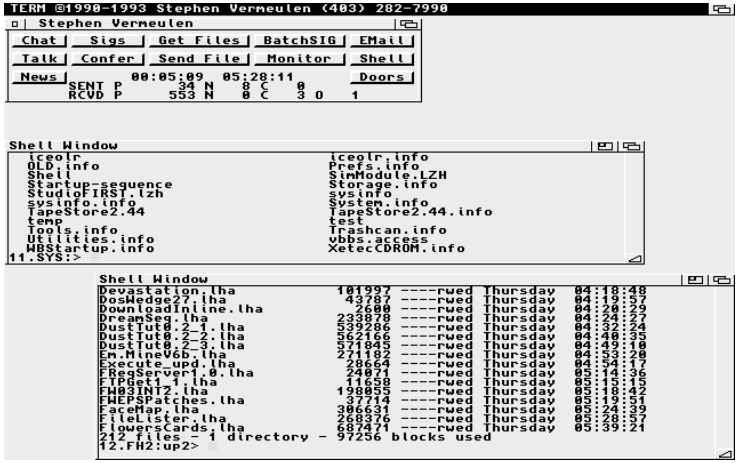
- The software should support a fully multiplexed, error corrected communications channel,
- The user should be able to do more than one thing at a time,
- The terminal should not require an accelerated machine to run at 9600 baud,
- The terminal should not eat huge amounts of RAM,
- It should provide the basic functionality of a BBS (messages, sysop chat, conference mode, email and a file system) and offer some means of expansion,
- It should take advantage of the capabilities of advanced modems (error correction and compression) to off-load work from the Amiga's CPU,
- It should allow messages to be posted to and read from FidoNet and USENET newsgroups.

At this point the software meets all of these goals, and work is continuing on new features and capabilities.

To realize the multiplexed[2] serial connection (and the BBS multitasking capabilities it provides) it was necessary to develop a special terminal program (called IceTERM throughout this document). This terminal program currently is only available for Amiga computers. As

[1] Which this manual describes.

[2] A multiplexed connection is one that can handle several different communications channels or streams at once, its sort of the computer equivalent of walking and chewing gum at the same time.



The Shell Window

To exit from a shell window you type the command '`endcli`' into it. Note that you should not issue any commands that open window displays since there is usually no way you can stop them.

5.16 Special serial port features

IceTERM can open the serial port in shared mode for those who really want to. To get this to happen either include the tool type '`SHARED`' or else include the '`-s`' CLI switch.

IceTERM also supports the '`OwnDevUnit.library`', this is for UUCP users who run '`Getty`' all the time. If you don't have the OwnDevUnit library then nothing new will happen. If you do have it then IceTERM will request access to the serial port via ODU and if it fails you will get a requester telling you that ODU has the port locked.

5.17 Doors

IceBBS supports a unique and powerful system of expansion called the *doors system* (or just doors for short). This system has been designed so additional clients and servers may be added to both the BBS and IceTERM ends of the communications link by just dragging icons and editing a few tool types.

The idea behind a IceBBS door is that there are two programs communicating transparently through the BBS and IceTERM packages. The connection that the BBS and IceTERM provide for the door is error free and transparently multiplexed in with other BBS and IceTERM functions. The user can start up and treat doors in the same way he treats any other BBS function.

IceTERM, The User's Guide

for version v119
March, 1995.

Stephen Vermeulen

edited his profile the contents of his profile will be displayed for you to read.

The '`Edit`' button is used to enable you to edit your own profile using your editor (see Section 2.6 [Your Editor], page 8).

5.13.14 The carbon copy buttons

The two buttons labeled: '`CC: Fido`' and '`CC: Usenet`' are used to control the BBS's news feature which automatically places a copy of all FidoNet and USENET news articals addressed to you into your email box. The CC: buttons will allow you to enable (button pushed in) or disable (button sticking out) this IceBBS feature. The settings of the buttons are stored on the BBS in your account file as soon as you change them.

5.13.15 The change password button

To change your password just hit this button, a string requester will popup and ask you to re-enter your old password. Then you will be asked to enter your new password. If you use the '`PASSWORD`' tool type or you use dialing scripts with your password in them make sure to update these.

5.13.16 The enter coupon button

This button allows you to enter the serial number of an IceBBS upgrade coupon that you have been given. This will then cause an automatic upgrade of your account, and when the coupon expires your account will automatically downgraded too.

5.14 News

The '`News`' button is used to access a number of news or help bulletins that the sysop has created. Typically this facility is used to place answers to frequently asked questions on-line.

Clicking on the '`News`' button will bring up a list of the available news files. To view the contents of any news files in the list just click on their names, the BBS will send the requested information and will display it in a scrollable message box.