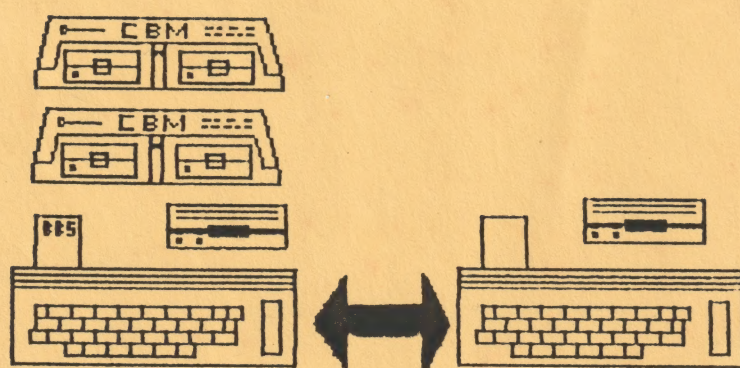


THE
**SPENCE SYSTEM BBS
MANUAL**

Written by:
Ken Spence
and
James MacFarlane



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If you intend to use the Spence-XP BBS in whole or in part for a commercial venture then you must obtain written permission from the authors.

PREFACE

What is a BBS?

A BBS is a system which allows a person (the USER) to exchange information over the phone using his computer. The User connects his computer to a host computer through the use of a modem and telephone lines.

A modem is a device which allows digital information (the stuff your computer uses) to be encoded into sound. The sound then travels over the phone lines to another computer which then decodes the sound back into digital information. This process is called MODulating and DEModulating. Thus the word MODEM was created. The modem is the greatest breakthrough in communications since the invention of the telephone itself.

Enough techie talk. Lets get down to business.

ACKNOWLEDGEMENTS

A very special thanks goes to Eric at Toronto Computes!
Without Eric we never would have made a cent.

Ken and I would also like to thank Alan Peters whose
information and support has saved us a whole lot of trouble.

Gestures of appreciation also goto: Dave Truman, Ken
Hetherton, Terry Barkley, David Carter, David Williams,
Hostess, Frito-Lay, Pepsi, Coke and whoever else wishes to
add their name to this list.

INTRODUCTION

"Any given program will expand to fill all available memory."

- Quote from the laws of computer programming.

The Spence System BBS. A program which has come back to haunt
us again and again. A program which is never really complete.
A program which continually grows, evolves, improves and
takes us every last clock cycle of our spare time. A program
which had cast our names into modemland history and has made
us less money than running a Kool-aid stand in January.

.....until we started selling copies of the manual.

You must be asking yourself a question right now. Something
like "Well why did they write it then if they didn't make nay
money?..." I have a few reasons: 1 - The public needed a good
public domain BBS program. 2- Both Ken and I thought it would
be valuable programming experience. 3 - To make authors of
other BBS programs angry.

Ken started writing the BBS program early in 1984 and started
selling the first copies that spring (I joined in about
then). Copies of the BBS sold for around \$50 each and Ken
managed to sell about 10 copies, enough money to buy enough
potato chips and doritos to keep him going for several
months. Ken stopped selling the program shortly after a legal
battle nearly broke out with a person who was running a
pirated copy of the program. Ken and I then decided it wasn't
worth the hassle chasing around pirates for a measly 50 bucks
so the program became public domain. We dreamed of becoming
famous because we surely knew we were not going to be rich.

The BBS caught on quite well around Toronto and since it was
the only decent public domain BBS the Spence System started
nibbling at the competition. Why not the price was right.



This is where the Spence BBS was written. This is the computer room at the MEGA MEGA SOFTWARE RESEARCH CORPORATION. Please note the abundance of everything a good programmer needs.

As we improved the program the Spence BBS became even more popular. Most of the other BBS programs were also getting better and the number of them available was also growing so we decided to quicken the pace a bit.

We decided that we are going to make a version of the Spence BBS that was just as good, if not better, than the ones costing big money. After about a month of sleepless nights the Spence-XP BBS was ready to take over.

I hope you enjoy our BBS program. It is as good as we could make it (sort of).



The first version of the Spence BBS is shown here. Ken was dreaming of writing a BBS long before he even owned a disk drive.

SYSTEM OVERVIEW

All of the full featured BBSes ignore the needs of the single drive owner, except this one. The Spence BBS will run on as many drives as you can possibly hook up to your C64 (including one). We made the program to work with most popular modems as well.

Features of the Spence-XP BBS:

Uploading/Downloading

- 1 to 10 directories
- Independently selectable drive/device for each directory
- Upload and Download logs
- LONG command
- Optional password protection on downloads
- Xmodem and Punter C1V2 protocol

Messages

- Public and private messages
- 1 - 8 message categories
- Message forwarding
- Message auto-reply
- Message scanning options
- Machine Language message editor
- Selectable message base size
- Selectable drive/device for message base location
- User selectable message category reading

Bulletins

- Selectable by name or number
- Sub-menu lookup available

Other features

- Online sysop commands
- Online link to system utilities
- User selectable column width
- Selectable modem type
- Selectable drive configuration
- Built in terminal mode
- Chat mode and pager
- 300-600 and 1200 baud operation
- Vote command
- ML assistance for speed
- User log
- User list
- Hot Keys

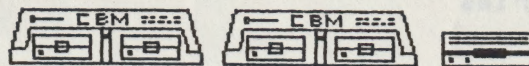
SETTING UP

You will need a separate disk for every drive you will be using. Make sure you use the highest quality disks. The last thing you need to happen is for your system disk to crash. If this happens you will have to re-enter all kinds of stuff, and that is not much fun. A constantly running BBS puts more wear and tear on a disk than most other applications.

You will need to enter some data in order to set up your data disk. Here is what we may ask for:

<time> - The time in 24 hour mode hhmmss
<day> - The current date (numerical) ##
<month> - The current month ##
<year> - The current year ####
<dr> - Drive number (0 or 1)
<dev> - Device number (8 - 11)
<text> - Any text information
<#> - Any number
<cr> - A carriage return, chr\$(13)

Multi-Drive System



If you plan to operate your BBS using a single drive you may skip to the SINGLE DRIVE SYSTEM section of the manual.

You will be asked which drive you want to put certain files. You will need to provide a drive and device number. You can have up to 10 directories so you should decide which drive you want to put each dir on. You should also decide which disk you want your bulletins on and your message base on. Once you setup the BBS in a certain format it is VERY difficult to change it so plan your configuration carefully.

Before setting up your data disks you should set up all of the proper drive numbers on your drives. After that is done you should load the SETUP program and place a formatted disk into each drive you plan to use.

Now RUN the setup program. The program will ask you if you are using SINGLE or MULTIPLE drives. Enter M for multiple drives. Next the program will ask you where you wish to put each file etc.

The program will set up your data disks and return you to a menu when complete.

You may now skip to the FILE SETUP section.



Contrary to popular belief you cannot insert 8 inch disks into the 1541, even when using the Spence-XP BBS.

Single Drive System

If you are setting up your BBS on a single drive you are slightly limited. You will still have all of the features you would if you had multiple drives but there are a few more things to do and worry about.

If you are not using a 1541 the data in this section may or may not apply. Refer to your disk drive manual if needed.

If you are using a single 1541 you only have 144 spaces for names in your directory. This means you have a limited number of files on your disk. Each message on the BBS has a filename so does each bulletin and each file in the download section. The BBS uses around 15 files to hold system data. This means you must be careful not to allow your disk directory to fill up. Using a large message base or having too many bulletins will cause problems.

You should not use more than 90 files for your messages + bulletins. If you plan to have an extensive bulletin section you will have to cut down on the message base size.

Another problem with using a 1541 is that you will have to swap disks when using the utilities package since you won't have enough disk space to have both the BBS and Utilities on the same disk with the BBS data.



After setting up your data disk(s) you will be asked for some information about the setup of your system. The program will set up some system files. All of these files will be stored onto drive B,0. Don't worry if you make an error the program will always ask you to verify the information before storing it on disk.

Data to be entered:

Directories. The program will ask for the name of each directory. These names will be displayed to the users when they access the uploading and downloading sections. If you are using multiple drives you will be asked to provide drive and device numbers for each directory.

Sample names: Games, Utilities, Terminal Programs, C128 files

Categories. You may have 1 to 8 categories. Categories allow users to select or ignore certain messages.

Sample names: General, Buy & Sell, Electronics SIG, Personals

You may have as many sysops on your BBS as you wish. Each System Operator gets a special signature at the bottom of their message to show they are a Sysop. The program will first ask for the password for THE Sysop (SYSOP) and the signature for that person (you). The program will then ask for the names and signatures for the other Sysops. Each of these Sysops must be a valid user of your BBS. You must enter the name of the person followed by a space. The BBS, when running, tries to match the person's name to the one in the file to pull their signature.

Examples :

<Your Name> - System Operator
<Name> - Sysop
<Name> - Assistant Sysop
<Name> - Janitor and General Nobody

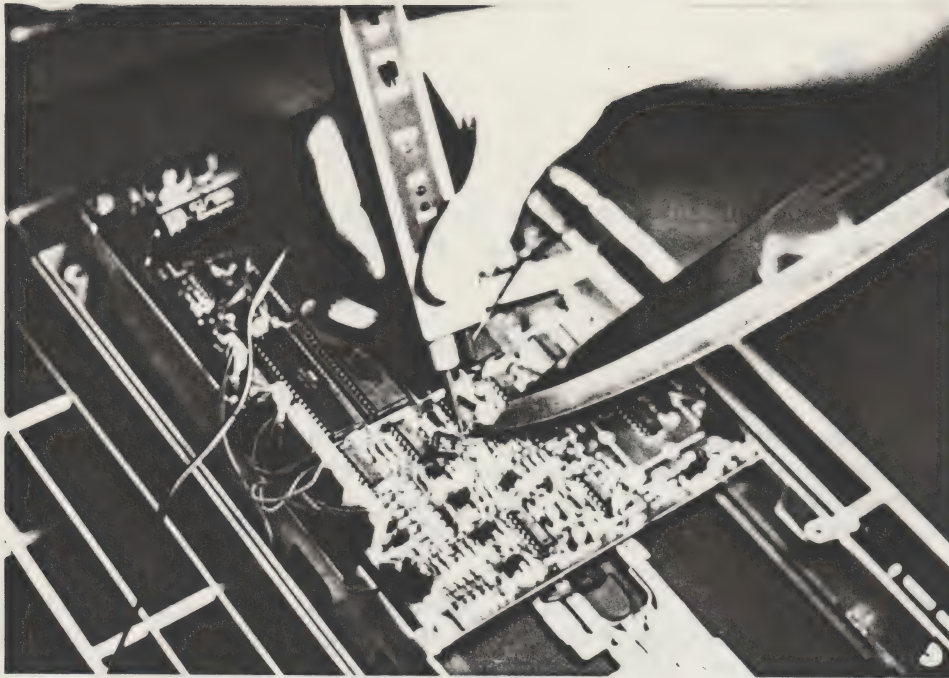
If you wish to change any of the above files in the future you must refer to the Technical Information section of this manual.

Now you are almost ready to go online (sigh)....

ALMOST....

You must copy the HELP files onto Drive B,0

Next you must create some files (onto B,0). All of the text files on the Spence-XP BBS are SEQ files. The text files are not formatted in any way except for <CR> at the end of each paragraph, where blank lines appear and at the end of the file.



In this picture Ken demonstrates how a common carving knife can aid the logic probe during hardware debugging.

You may use a standard word processor (I use PaperClip) to create text files and you simply save the file to disk. Be sure you have the <CR>s in their proper places. DON'T SAVE THE FILE IN PRG FORMAT! If using Paperclip use CTRL-Z to save.

You must create some bulletins. The main menu must be called BULLETINS. Each bulletin must be called "b-<name>" allowing you to use both letters and numbers for the naming of bulletins. Numbers tend to be a better system when using more than 10 bulletins or when using sub-menus.

When new users log on they are shown a file called "welcome". This file should contain information about your BBS and how they can get validated.

The opening bulletin is called "intro" it is shown to all users when they log in. The BBS is set up to create this file within the message editor. More on that later

The BBS cannot go online without any users in the user list. You must add at least one user. To do this refer to the RUNNING YOUR BBS section of the manual.

Gee, that was not THAT hard was it? I am sure it was much harder explaining it.



GOING ONLINE



You are almost ready to go online. Before you boot up the BBS it might be a good idea to add a few files to the download list and to write a few messages.

Let's boot up the BBS. Insert the BBS program disk into drive 8,0 and LOAD"boot",8 then [RUN]

You will be asked for the time, date and colour of the status window. If you wish to change the colour of the status window after the main BBS has been loaded you can stop the program and POKE 690,[Colour #]. After entering the data the BBS will be loaded.

When "READY" appears insert the data disk into drive 8,0 and RUN the program. The system status file will be displayed and "WAITING FOR CALL" will appear in the status window. If the BBS fails to boot properly you should check to see if all your drives are set up properly and that all of the proper data disks are in their place.

To log on your BBS, press SHIFT-L. Note that the BBS shows you are logged on at 1200 baud. It does not matter which type of modem you have since the BBS is ignoring the modem right now. 1200 baud local mode allows you to look around and perform your duties quickly.

Now you must create an INTRO file. To create this file you need to type E to enter a message. It does not matter who you send it to or what the subject is because the message header will be discarded and the text will be saved directly to the INTRO file. To make the BBS save your message as INTRO you need to enter 0 as the category (0 standing for Opening Bulletin). Only persons with sysop status may do this. Your opening bulletin will be shown to every user who logs on. After a validated user has read the opening bulletin it will not be shown again to him. The BBS keeps track of who has read the opening bulletin and who has not. When you create a NEW opening bulletin it will once again be shown to everyone.

You can also use the message editor to create the VOTE file. Enter V as the category to do this.

You are now ready to go online so log off and stop hogging your own system!



It is 2am and Ken, knowing the BBS is going to be a big success, calls his stock brokers.....
"Yes I really do want to dump all my IBM shares...."



"Hey Ken is this the right disk?"

RUNNING YOUR BBS

There are several things you must do in order to keep your BBS running smoothly. You should backup your data disks weekly to ensure a disk crash is not a total loss. Another good practice is to validate (collect) your disks to regain lost blocks.

Your message section requires special care. The BBS does a good job of doing most of the work for you but there are a few time consuming details which are better off left to accumulate until it is convenient to take care of them. One of these things is the MESSAGE HEADERS.

Your message base will fill up until it reaches a pre-determined maximum. After the message base is full each NEW message will be put at the top of the stack and the last message on the stack will get bumped off the bottom (deleted). With each message is a message header. The header is in a separate relative file to allow quick lookup of any message. Deleting a record from the bottom of a relative file is not easy. Each record in the file must be bumped down by one place until the one at the bottom is replaced. This can take quite a long time, especially on a 1541.

Instead of wasting time we simply keep track of where the last valid record is. We continue to add additional records to the file. These unused records build up after a while and you must delete them. To get rid of them you simply have to use the CRUNCH command in the editor link. Reading the system status will let you know how many records are present. Remember, each unused record (message header) uses up valuable disk space so keep an eye on it. The limit of records a relative file can hold on the 1541 is approximately 700, so it would be safe not to let it get nearly that high.

VALIDATING USERS

Validating new users is fairly simple. Select the V command in the link and sit back. Each user requesting validation must complete a pre-formatted validation request. The user is also given the option of leaving you a short comment. The program will show you each validation request and all you have to do is enter YES or NO. The program will automatically do the rest. Note: Telephone numbers will be discarded after validation has taken place.

ADDING USERS

If you wish to add users who have not yet left a validation request (maybe a friend of yours) you will can use the ADD command to do it.

DELETING USERS

There are two ways of deleting users. You can selectively delete them individually or you can delete all users who have not logged in since a particular date. Use DEL to delete a single user or use COMPACT to delete old users.

EDITING DOWNLOAD LISTS

Type LIST within the link for a list of the existing directories. (Just like the BBS would do normally.)

You can select which directory you wish to edit by typing LIST# (# being the directory you wish to edit). You can delete or add files. When adding files you will be asked: program size (blocks), file type, program name and password. Passwords are optional. Be sure to copy the files to the proper disks!

There is a special way of naming the files so the BBS will recognize them. The filenames must all be in uppercase. Be careful not to put spaces in uppercase. Each filename must end with the directory number in which it is to appear. For example you have a program called "music file" and you want to store it on directory 2. You would rename the file to be "MUSIC FILE2". Note there is no space after the end of the filename.

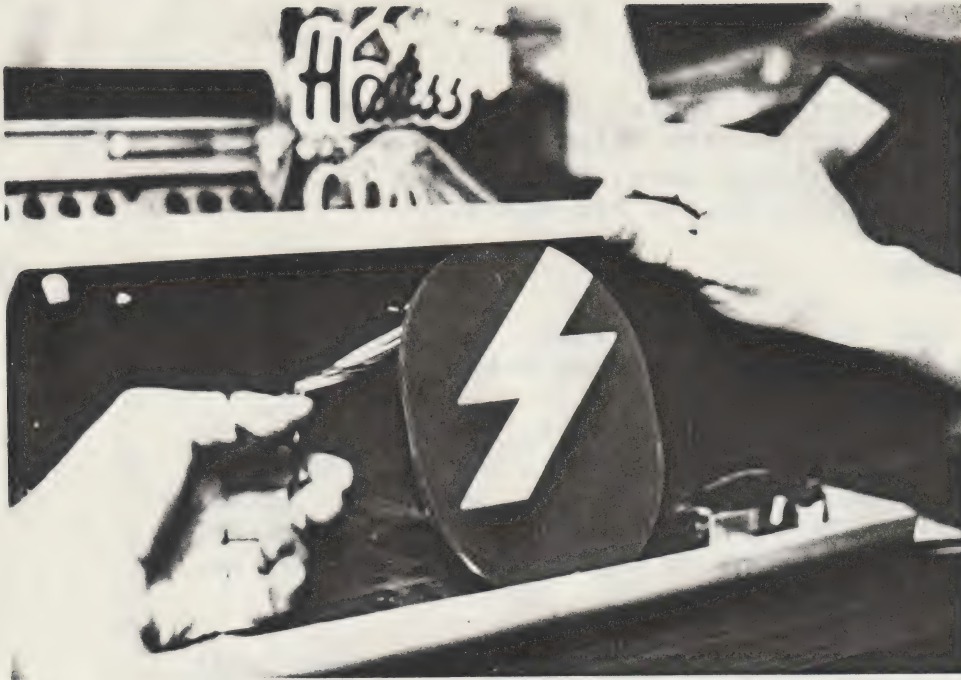
Online Functions:

The Spence-XP BBS makes full use of the functions keys:

- F1 - Display current users password and sysop status.
- F2 - Terminal mode. This allows you to call another BBS. Dial manually and hit this key.
- F3 - F3 allows you to upload and download when you are in CHAT mode (to be used with terminal mode).
- F4 - User definable (see technical section).
- F5 - Logoff user (y/n). You can kick off a user using this key. Use your own discretion.
- F6 - Renew users connect time. If a users connect time is about to expire and you wish to reset it.
- F7 - Chat mode toggle.

Sysop commands

The sysop commands file may be accessed by typing HELPS (S for SYSOP) at the BBS command prompt.



WARNING!
Do not open up your computer in this manner. As you can plainly see the bag of potato chips are about to get crushed.

TECHNICAL SECTION

This section deals with:

- File formats
- Modifying the basic program
- Using the ML routines

Do not attempt to do anything in this section unless you consider yourself to be an advanced enough.

FILE FORMATS

You may edit many of the BBS system files. This section provides information on how these files are set up. All SEQ files NOT listed, in this section, are regular SEQ files which follow the text file format as previously mentioned.

CATDIR - This file contains the directory and category names. It is read into a string array when the BBS initializes.

Format:

```
[# of Directories][CR]
[Device Number] [CR] :These repeat
[Drive Number] [CR] :for the
[Directory Name] [CR] :number of
[# of Files] [CR] :directories.
[# of Categories][CR]
[Category Name] [CR] :(<Repeats>
```


INTRO - This is the opening bulletin. The reference number is the highest used message reference number. The BBS uses the User's "NEW" Ref # to decide whether or not to display the opening bulletin.

Format:

[Reference #] [CR]
[Regular text file format follows...]

USER RECORDS

User records are stored in a relative file. The format is as follows (numbers of characters are shown as well):

[Name 2-25][Password 6][Last on Date 6]
[Msg Ptr 2][Flags 1][Mail 1][Msg Ptr 1]
[Categories Selected 1][Screen width 1]

Flags in user record.

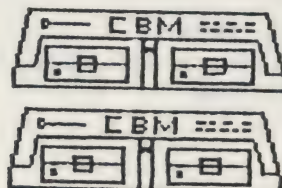
<u>Bit#</u>	<u>Used for</u>
0	Continuous mode
1	Expert mode
2	Sysop status
3	unused
4	unused
5	unused
6	unused
7	unused

You may use bits 3-7 as you wish.

MODIFYING THE BASIC PROGRAM

Here is a list of key line numbers and routines they perform:

- 0 - Jump to initialize routine
- 1 - (Combination of Lines 2 & 4)
- 2 - Output a\$ to screen + modem
- 3 - Jump to main loop
- 4 - Input I\$ from Keyboard and/or Modem
- 5 - Read SEQ file. (F\$=Filename)
- 6 - Shift I\$ to uppercase
- 7 - Stop, Continue and Abort Message
- 8 - Send Line Feed (Screen & Modem)
- 9 - Pull Disk Status
- 770 - Main Loop
- 780 - Command Table (Trace all routines from here)



USING THE ML ROUTINES

We have provided ML routines which can be used to aid any basic program which uses the modem extensively. These routines will speed up many things which are usually done in BASIC.

UPCASE - Shift a string into uppercase.

Example I\$="test":SYS51200,I\$
(You can use any str variable)

SETTXT - Message input mode
SYS51206

SAVEBUF - Save message buffer to disk
OPEN9,8,2,"0:filename,s,w"
SYS51209

READ - Read and format msg from disk

(Follow BBS as an example)

FETCH - Read message from buffer.

(Extremely similar to READ)

OUTGOOD - Format message buffer.

(Extention of READ and FETCH)

OUTPUT - Sends string to modem, screen with
cursor.
SYS51221,[string name]

INSERT - Routine for message section.
DELETE - (Same)
REPLACE - (Same)

INPUT - Get string from modem and/or keyboard.
SYS51233,[String Name]
Note: You limit the length of the
input to 'x' by setting the
length of the string to 'x'
spaces before the SYS.

HOTKEY - Get single character and return
it into a string
SYS51239,[string name]
Set string equal to a space before
calling this routine.

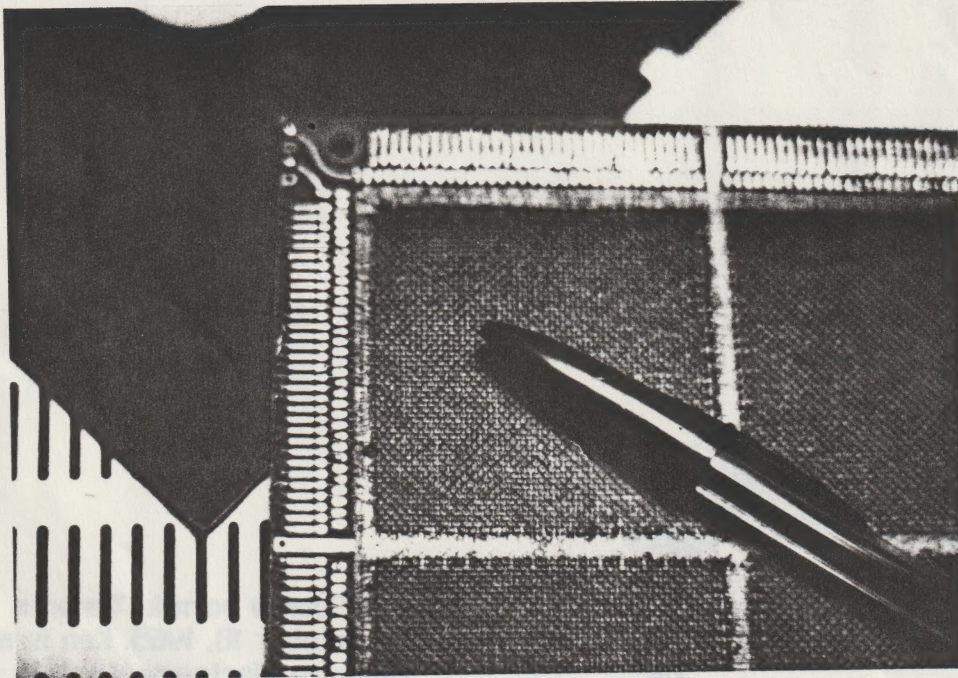
GETLIN - Pulls chars from disk file and stores them into the string. This routine should not be used for reading lines exceeding 255 characters. Set a string to 255 spaces. SYS51245,[string name] Length of line will be set in ocaition 253.

INTER - Setup status window interrupt. SYS51248

SETSTT - Set status window text. Places text from string into window. SYS51251,[string name]

There are many smaller routines which are called by these routines. These smaller routines cannot be called directly from basic but may be used in the development of more ML routines. See the SPENCE-XP ML source code for info.

Confused Yet? (We are!)



Ken: "OH NO! another out of memory error. You better pass up that extra memory to me".

James: "But Ken that is CORE memory not the usual stuff".

About the Authors



James MacFarlane, Born in Toronto, April 24, 1966. James is currently attending Humber College where he is studying Electromechanical Technology. James runs a robotics club and is seeking a career in robotics. He does not shop at Benetton and does not listen to AM radio. James hopes that one day the world will look like a scene from **BLADE RUNNER**.



Ken Spence born in Toronto on October 18, 1965. Ken is also studying Electromechanical Technology at Humber. Ken only listens to compact disks. Ken does not drive a Camero and does not have a girlfriend named "Gina".

Spence XP Manual Update as of April 10, 1987

You, the operator of the Spence XP BBS, should always log on the BBS using the name SYSOP. Be sure to log on as SYSOP before doing anything else on the BBS, such as adding users.

The opening credits, which are shown to all users when they log-on is a SEQ file called "credits". Create this file on 8,0. The file should contain the name of your BBS, who runs it and the operating hours.

There is a slight bug which occurs when returning from the SYSOP LINK. Log off immediately after returning to the main BBS. Log back on if you need to.

To return from terminal mode, press CURSOR UP.

1670 users note: due to internal timing problems with the C64, you must use 1230 instead of 1200 baud when using terminal mode. Use 1219 baud if you intend up upload/download using F3. All of the 1670 commands are available from terminal mode. Use ATM1 to turn on the speaker and use ATDP(+ phone number) to dial out.

Program updates are available from where you obtained this copy. The cost is \$8. Be sure to let us know which version you are currently using to ensure we will not send you a duplicate.

Help and information about the XP BBS is available from SOMA HOLIDAY BBS 416-622-7198 300/1200 anytime.

James MacFarlane -CoAuthor of the Spence XP BBS.

