GBBS][

BULLETIN BOARD SYSTEM

Written By
Greg Schaefer

GS Software

GS Software Presents:

GBBS][BULLETIN BOARD SYSTEM

version 1.7

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Valued customer –

THANK YOU for purchasing GBBS][. With the enclosed diskette, you have received the state-of-the-art in bulletin board communication systems. GBBS][is a user friendly, highly modifiable, easy-to-use system. You can easily adapt it to satisfy your individual needs. It is my sincere hope that GBBS][meets your high standards.

Greg Schaefer

TERMS OF SALE/DISCLAIMER !!!

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Please mail in the enclosed registration card for the following reasons:

1) I only help Sysops who have registered their board.
2) You must be registered to access the GBBS][SYSOP board on Aurora-Net, (303) 680-9292.
3) You must be registered to receive updates and/or corrections.

ACCESS TO THE GBBS][SYSOP SECTION

Aurora–Net (The GBBS][base system) is equipped with a special board named the GBBS][SYSOP board. On this board you can get some new programming ideas from other Sysops who run GBBS and find out some of the new concepts in the BBS world.

One of the biggest features of the SYSOP board are all of the modifications that are posted by other Sysops. You may post any modifications that you have made to your system, but doing so puts the modification in public domain and anyone who has access to the SYSOP board can use the modifications in their program. If you do not want your modifications used by others, then do not post them. Ideas and concepts (such as using word wrap in E–Mail) however, can also be copied by other people. People can use the same ideas to write their own code to get the same results. So if you want a concept that is different from other Sysops than don't post that either. But ideas always get better when people share them and make them even better!

The SYSOP board also features enhancements and fixes for any discovered bugs that I might have. You may leave questions and I will try my best to answer them. Revisions and updates are announced there. (To receive updates you must return your original disk. Details will be on the SYSOP board.)

The number of the system, which is in operation 24 hours a day, 7 days a week, on a dedicated computer, is (303) 680–9292. To obtain

access to this special board maintained for your convenience, leave F)eedback to the Sysop (Ken Scrogan) and inform him that you are a GBBS][sysop. Give him your registration number (on the label of the MASTER DISK) and you will be verified. You may be called by voice for verification using the phone number on your registration card. Be sure you have returned your registration card before requesting access. Please note that all the offered user support that comes with GBBS][is a BONUS. This gift may be taken away at any time should a person's conduct deem it necessary. Any Sysop who abuses copyright law by giving out copies of his system or by other unfair practices forfeits this gift.

ACKNOWLEDGEMENTS

Very special thanks go to Bob Gaiser and Karen Schaefer for their work on this manual and also to Ken Scrogan and Glenn Heyhurst for testing things out and of course to all the GBBS][Sysops for making GBBS][the best system around.

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SETTING UP YOUR BULLETIN BOARD

To set up your board there are five basic steps to follow:

1) Make a copy of your MASTER DISKETTE.
2) Configure GBBS][to your hardware.
3) Create your data diskettes.
4) Copy files.
5) Start your board running.

If you follow these instructions, then you should be up and running in half an hour or less!

I-M-P-O-R-T-A-N-T

Before going any further, PLEASE complete step one and back up your MASTER DISKETTE! Use COPYA from your System Master or the ProDOS Filer (or another disk copy program), and then put away the MASTER in a safe place. Always work with your back up copy. When this manual refers to the MASTER DISK it means your back up copy of that disk.

INITIAL SYSTEM GENERATION

The ProDOS version of the program does not include ProDOS on the disk. You must first boot up with a ProDOS master disk. You can directly boot the DOS version of GBBS.

Now RUN GBBS II CONFIG (or GBBS.CONFIG for ProDOS) from your MASTER DISKETTE. This is the program that sets up your system to work with your particular hardware. When the program comes up, you will see a menu of 6 options. To start up

your system, choose option number 1, INITIAL
SYSTEM CONFIGURATION. Answer "Yes" to the "ARE
YOU SURE ?" question.

First enter your name and phone number. Since
you can make this number available to users, you
may wish to use a voice line at which you are
available so that they can report any problems.
You must now decide on a name for your system. No
commas or colons are allowed in the name.   Since
the name is used in a context such as: "WELCOME TO
as the first word of your name. If your system is
the NATIONAL BBS then you would have to enter "THE
NATIONAL BBS" for your name or your users will
read "WELCOME TO NATIONAL BBS" instead of "WELCOME
TO THE NATIONAL BBS." Next, enter the date. Last
of all, please enter two passwords that you will
use in logging on. The first password is your main
password and must be 7 characters long. When the
system asks for your password when logging on,
enter this. You will then be asked for a remote
password. This password can be of any length. You
should generally keep it between 8-30 characters.
When you log on remotely, you will be asked for a
remote password. You do not need to enter this
locally.   Verify that all this information is
correct and write down your passwords.

Next, the program will present a list of
supported internal modems and RS-232 cards and
external modems.   From the first list of numbers
choose the modem/RS-232 that you will be using
with your system. If you are using an Apple //c
then in config choose the Super Serial Card in
slot 2.   If your modem/RS-232 is not listed then
you may have a problem. However, some unlisted
modems will configure in the same way as one which
is listed.   Consult your modem manual for its
compatibility with other cards. If you picked one
of the RS-232 cards, then select the modem that

you have with your system.   If you do not know
which modem to select, consult Appendix A. Enter
the slot that your card is plugged into.

When you get to the next menu, enter "Yes" if
your Apple is equipped with lowercase.   If you
have uppercase only, enter "No".   This will NOT
control what your users see. They will see lower-
case if equipped to receive it.

The system has a time limit built into it
which controls how long a user can be idle before
the system hangs up on him. I recommend 5 minutes.
If you have a printer then tell the system so and
what slot it is in.   (It is preferable that it be
in slot 1.) No special printer type is required.
The last question is whether you want to place the
driver in the language card. If you do place it
there, you have to supply your own HI-DOS (a DOS
than runs in the language card).   I suggest using
David-Dos as it has been tested and works well. If
you do not understand this question then you
should answer "No".   If you are using ProDOS, the
driver will always be placed into low memory
because the operating system takes up all of high
memory. Verify that you have entered all this
information correctly.

For the next four questions, it is best to·
answer   [RETURN].   These let you modify   the
characters that cause the system to take certain
actions, such as skipping a bulletin and exiting
from menus.   This is explained in detail in
Chapter 4.   Verify that this information is
correct.   Enter a [RETURN] in answer to the next
question. Verify this information.

If you have more than one disk drive you must
decide how you want the various files arranged on
your disks.   If you are using a hard drive then

you can arrange your files on different volumes. There are MAIL FILES, BULLETIN FILES, and SYSTEM FILES as well as some other types (which won't be used at this time). It is easier to modify the system later if the same type of files are on the same disk or volume (i.e. all download files on a Download disk or volume).

MAIL FILES are files that contain private electronic mail for users. There is a separate file for each user with one or more pieces of mail waiting. If you have a system with 300 users and 83 users have a total of 274 pieces of mail waiting, then there will be 83 MAIL files present.

BULLETIN FILES contain the public posted bulletins. There is one file per bulletin on the system. The answer you give for the bulletin drive only applies to your main board. You will still be able to add more boards on the same or different drives or volumes.

SYSTEM FILES are files such as your menus and userlog. Four other types of files, DOWNLOAD FILES, VOTING FILES, and GENERAL FILES, will also be on the SYSTEM DISK or volume.

DOS 3.3 Setup

The suggested distribution of DOS 3.3 files is:

1 drive : All files on that drive.

2 drives: SYSTEM FILES on one drive, MAIL and BULLETINS on the other.

3 drives: SYSTEM FILES on one drive, MAIL on another, and BULLETINS on the last.

Tell the program if you are using a hard
drive or not. You should answer "Yes" if you have
a hard drive or any form of storage that uses the
"volume" parameter with DOS. After this, tell the
system what slot and drive each disk will be in.
If you are using a hard disk then you will also
have to specify the volume for each item whether
you use a different volume for each item or not.
When using a hard drive you should use the same
slot and drive for all the files. The volume is
the only parameter that should have to be changed.
Verify the above information. Skip to "Finishing
up Config" if you are using DOS 3.3.

ProDOS Volume Setup

Using the pathname structure of ProDOS, it is
possible to set up multiple directories. This is
very important and should be used to its fullest
advantage. Since ProDOS will only allow 51
files in the main directory of a disk, all files
for bulletin boards and electronic mail should be
in their own sub-directories. Try and put each
bulletin board section within its own sub-
directory. This will eliminate confusion later and
will make it easier to manage your files.

Whenever you are setting up a pathname for
the system to use, always use a full pathname.
This takes the form "/pathname/sub-path/". If you
only use a partial pathname, it is possible for
the system to get lost and crash. You should put
the SYSTEM files, the MAIL DISK or VOLUME, and the
BULLETIN files all in different sub-directories
that branch off of the main directory or sub-
directory. For example, you could put the
bulletin and mail files on the same disk or volume
(though in different sub-directories), and system
files on another.

As a sample configuration for a two-drive
system:

Drive 1 — Name = /MAIN.DISK; Sub-Dir = SYSTEM

Drive 2 — Name = /STORAGE; Sub-Dir = E.MAIL,
          BULL.1

SYSTEM DISK   = /MAIN.DISK/SYSTEM/
E-MAIL DISK   = /STORAGE/E.MAIL/
BULLETIN DISK = /STORAGE/BULL.1/

The system files would be on the directory called
"/MAIN.DISK/SYSTEM/", the mail files would be on
the directory called "/STORAGE/E.MAIL/", and the
bulletins would be on the directory called
"/STORAGE/BULL.1/".

Under a hard drive, the same thing could be
achieved by putting both MAIN.DISK and STORAGE
under another main directory such as:

SYSTEM DISK   = /GBBS/SYSTEM/
E-MAIL DISK   = /GBBS/E.MAIL/
BULLETIN DISK = /GBBS/BULL.1/

To use the built in ram drive that is available on
128k Apple //e systems, just access the volume
called "/RAM". You will then have access to about
1/2 a disk drive. Remember that this is a
temporary volume that will be destroyed when the
system is turned off. You should only place "Read
Only" type files in there.

FINISHING UP CONFIG

The last piece of hardware to tell your
system about is your clock. If you don't have

one, just tell the system so. If you have a clock
but it is not listed, then check your manual. It
may work configured as a Mountain Hardware clock.
Enter the slot of your clock if present.   Last,
enter today's date. Make sure that it is correct.
Some clocks don't know the current year so they
need to get it from the system.   The only way the
system knows the current year is from what you
tell it.   Verify the above information.   If you
realize there is a problem in a menu farther back,
press [RESET] and type: RUN. Otherwise, the disk
drive will start and the system will go to work.
After   30   to   40   seconds   you   will   see:
"CONFIGURATION COMPLETE".

SETTING UP YOUR DISKS

        You must now format at least two disks, a
BOOT DISK and a SYSTEM DISK.   If you have more
than one drive you will prepare a MAIL and
BULLETIN DISK or separate disks for these two
purposes. If you are using ProDOS, then you can
use the ProDOS Filer to do this. After formatting,
you need to create your sub-directories. To do
this, go into basic and type "CREATE" and the name
of the sub-directory. After finishing all the
disks, skip down to copying over the files.

        If you are using a hard drive, then you will
have to decide what volumes will contain what
data.   You are responsible for formatting the
volumes. Just get all the volumes or disks set up
so that you can copy files onto them.   This goes
for any type of storage you are using whether it
be floppy or hard disks, 5 or 8 inch.

        If you are using DOS 3.3, then the BOOT DISK
will contain DOS and the GBBS][programs and will
be the disk you use to bring up your system.   To

create this disk, put your GBBS MASTER DISK in the drive with the configured program on it and type "PR#6". When the disk has booted, type "LOAD GBBS LOAD", insert a blank disk, and INIT HELLO.

If you are using DOS on a standard Apple drive, you can use DATA DISK MAKER, included with your system, to make special high-storage disks, especially useful if you are limited to only one drive (and therefore one data disk). While a normal disk contains 105 separate files, this is not always sufficient. With this program you can have 105, 161, or 217 entries in your catalog. Also, since there is no DOS on this disk you have an additional 32 sectors for data. If you have a 40 track drive, then the program can use all 40 tracks for even more storage. This program is only for standard APPLE DISK DRIVES and not with special 80 track or 8 inch drives.

If your SYSTEM DISK must also hold MAIL and BULLETINS then format it to hold the maximum number of files. Otherwise, 105 will be sufficient.

It is best if your MAIL DISK and BULLETIN DISK have at least 161 entries. 217 may be even more desirable.

To make these special disks, RUN DATA DISK MAKER from your MASTER DISK. Tell it how many entries you want to have in your catalog (105, 161, 217). Then insert the blank disk that you want initialized. After it has formatted the disk, the program will tell you how many sectors and entries are available. You should mark the number of possible entries on the label of the disk so you can remember what the limit is. When the program is done, you can type [RETURN] to make another data disk or any other key to quit.

Once you have formatted the disks, copy the files from your MASTER DISK appropriately. Here is a list of files and the disks to which they should be copied. Use FID on your DOS 3.3 System Master to copy them to the right disks. If you have some special drive, use the file copy program that was provided with it.

COPYING DOS 3.3 FILES

Onto the BOOT DISK you should copy:

GBBS II BBS   GBBS LOADED   GBBS LOADER

Onto the SYSTEM DISK you should copy:

BBS #S	D1	D1/1
D1/2	D1/3	D1/4
DATA	DRIVER DATA	G1
G1/1	G1/2	G1/3
MENU1	MENUO	GBBS II DRIVER
MENU9	NEW USER INFO	SYSTEM HELP
SYSTEM INFO	SYSTEM NEWS	USERS
USERLIST HELP	XMODEM	DOT.HELP
V1.1	V1.2	V1.3

COPYING ProDOS FILES

Onto the BOOT DISK you should copy:

GBBS   GBBS.STARTUP   GBBS2
DRIVER.DATA   DRIVER.GBBS

You also need the files: PRODOS and BASIC.SYSTEM. You can get them from the ProDOS users disk. You should rename GBBS.STARTUP to "STARTUP."

Onto the SYSTEM DISK you should copy:

BBS	D1	D1.1
D1.2	D1.3	D1.4
D1.5	DOT.HELP	G1
G1.1	G1.2	G1.3
MENU0	MENU1	MENU9
NEW.USER.INFO	SYSTEM.HELP	SYSTEM.INFO
SYSTEM.NEWS	USERLIST.HELP	XMODEM
V1.1	V1.2	V1.3

The BULLETIN DISK and MAIL DISK need no files copied onto them. If you are using some other non-standard type of drive, copy the files from the completed BOOT DISK to it. To start up your system you will type: RUN HELLO from the slot, drive, and volume that the BOOT DISK is located on.

Up and Running

Your system is now ready to go. Insert the BOOT DISK into slot 6, drive 1 and type PR#6. If your system is not based around normal drives then boot from whatever drive you are set up for. Your system will now boot up and you will get the message telling you to insert the correct diskettes and type RUN. When you insert those disks and type RUN, your system will come up and you will be ready to receive your first call.

LOGGING IN FOR THE FIRST TIME

Once you have your system up and running for the first time, it is important to log on and set some things up. Type "G" (be sure to use UPPERCASE only) from the keyboard which allows local logon to your system. You will be asked "Auto Logon ?". Answer "Yes" and you will be logged on the system automatically. The system will check your password and come up with the message "Calling From (City, St) —>". Enter your city and state. If your input is not accepted, try it again using an abbreviation with fewer characters.

Now that you have logged on, there are many commands which you may try. You can do anything from reading bulletins to sending electronic mail to changing passwords. The first thing that you SHOULD do is go to the bulletin system. You will then be prompted "LEAVE BULLETIN ?". Answer "YES" to this. It will then ask you for the subject of the bulletin. The subject may be something like "THE NEW SYSTEM." Next, the program will ask who the bulletin is from. (Only the Sysop is asked this question.) You may type any name you wish. Normally you would put "SYSOP", "SYSTEM OPERATOR", your name, or an alias.

After this, you will enter the EDITOR where you will type the text of your bulletin. You may enter up to 50 lines of text that are 40 columns wide. When you are done composing your bulletin, press [RETURN] and then type DONE as the first characters of the next line. This will tell the EDITOR that you are done entering text. You will then get an "OPTION (?=HELP):" prompt. There are several options that can be entered here. The one you need for the moment is "O" for OK. If you

enter "0" then your system will save your bulletin
and you will be returned to the bulletin menu.

    While in the bulletin system you can reread
your bulletin, leave another, or exit the bulletin
system back to the main command menu.   We will now
read the bulletin that you entered. Type a "1" and
[RETURN] to see the the system's first bulletin
which you just entered.   After admiring it for
awhile (your first Sysop bulletin!) type an "A" to
abort back to the command menu. As Sysop you
cannot Auto-reply to your own bulletins.   Enter a
"T" and terminate from the system.

GBBS][RUNTIME COMMAND

Once your system is up and running there are some new commands to learn. The first few of these are those that can be issued while the system is standing idle (that is, when it is waiting for a call). Obviously these are available only on the GBBS][console itself and there is no menu. These commands must be entered as simple upper case (NOT CTRL) characters:

G : allows you, the Sysop, to log on (GET ON) the system locally (from your own computer). You may then sign on under your own password as Sysop or as any user whose password you know.

A : ANSWERs the phone in order to connect with a caller should the modem not be connected at the time the call was originated. This will send out a carrier and attempt to make a connection. This only works on most internal modems.

Q : Allows you, the Sysop, to QUIT the program and go into Applesoft BASIC. This command is just like pressing RESET.

Once you are connected with the system, you can log on by typing your last name and your password when prompted. Or you can can use Auto-Logon.

System Help

The following is a list of each command and it's use on your system after you configure your program. This is very similar to what your users will see when they type "H" for Help.

Bulletin Board Commands

B : The "B" will send you to the main bulletin board. From here you can type a question mark to see a list of commands.

A : This will return you back to the main menu.

E : Use this command to edit a bulletin. This command is the same as using "G" to GET a file in the Sysop section without having to go there. This command is not available to the normal user unless you set up a security level for it.

F : You can list all the bulletins starting "Forward" at a certain number.

+ : This command must be used after the "Forward" command. First use "F" for Forward; then type the bulletin number you wish to start with. At the next menu bar type a "+" and all remaining bulletins will fly by without stopping. Use this when you want to print out more than one bulletin at once without having to hit "N" after each one. Or use it to save them all to a buffer to view later when you log off.

K : "Kills" bulletins you have left. The user will only be able to kill the bulletins that he has left. You will be able to kill any users bulletins.

L : "Leave" a bulletin for all users to see. You will be dropped into the editor to enter your message.

M : When you "Mark" the bulletins you want, the

first one you selected will print auto-
matically. Use the "N" command to see the
next ones you marked.

N : This retrieves "New" bulletins that have been
left since the last time you called.

S : This "Scans" message subjects starting at
a certain number. If you wish to "Mark Mes-
sages" after each title, you should answer
"Y". This will allow you to read the bulle-
tins you "marked" when you are done seeing
the titles. After 15 bulletins titles are
displayed, you will be asked if you wish to
see more titles. If you have been on the
system before, you will see a ">" in front
of the number of the titles you have not yet
read.

: Enter the number of a bulletin on a board and
it will display that bulletin.

After using either "New", "Forward", or
"Marked" retrieval, you will get a line of
options displayed. You can use "R" to Re-Read the
bulletin. "Q" will exit back to the bulletin
menu. "N" or a [RETURN] will go to the next bulle-
tin. If you press "A" you will have an option
to send E-Mail to the person who left the bulle-
tin you are reading. You will then go back to
the line of options. The following commands are
for the editor. Whenever you use a command such as
Send E-Mail or Leave Bulletin then you will have
to use the editor to create the message.

Editor Commands

The following dot commands can be used in the
first column of each line within the editor as you

are typing in your text (they will not work in the middle of your text):

Text Dot Commands

.C This command will "Center" the rest of the text that follows the dot command. It depends on the video width that you have set.

.F Sign your "Full" Name on the line that you use this command.

.H This will print out the Dot command help file on the screen and let you continue to write your message.

.N Sign your first "name" on the line that you use this command.

.O This dot command will save the file ("O.K.") without allowing you to edit the file again. This is helpful if you have typed in the file before you called this system and only want to upload your file.

.P The ".P" command will allow you to insert a ">" at the beginning of each line so that you can upload a file to the editor at the fastest rate possible. You can tell your software to send the next line when you receive the ">" character. Typing ".P" again will toggle off the prompt.

.R Typing in ".R" on the following line will put you into edit mode for the previous line. You will receive a line number at the beginning of the line so that you can "Re-type" the line.

W   Toggle Word Wrap Off / On. When Word Wrap is
    on it allows you to keep typing a line
    without using a [RETURN] to go to the next
    line.   When it is off you must hit [RETURN]
    at the end of each line to begin the next
    line.

    The following commands can be used after you
    type in your text:

Edit Commands

A : If you decide you don't want to send your
     message for some reason than you can "Abort"
     from sending it.

C : This will let you "Continue" and append at
     the end of your current text.

D : By entering a line number you can "Delete"
     one or more lines. If you enter [RETURN] for
     the starting line, then the attempt will be
     aborted. You can also issue the "L" command
     which works as it does with Edit.

E : You can "Edit" a line of your message by
     entering its line number and re-typing that
     line. If you enter "L" then you can list the
     message using the same form as for the "L"
     command above, but line numbers will be shown
     before each line of text.

I : Using   this   command you   can "Insert"
     before the line number you specify. You can
     use the "L" command the same way you do with
     Edit.

L : You can "List" your message in part or in
     whole. You will be asked for a starting line

number. If you press [RETURN] then the
entire message will be listed. If you enter
a starting line number, then an ending line
number will be requested. If you enter
[RETURN] then it will list from the starting
line number to the ending line number.

N : If you messed up your message and wish to
redo it, then use "New" to start again.

O : This stands for "Ok". It says that your
message is complete and you wish to send it.

System Commands

The rest of the system commands are as
follows:

C : "Chat" with the Sysop. You need only issue
this command once as the Sysop is constantly
reminded that you wish to chat with him.

D : With this command, you can "Download" public
domain programs from this system. After you
choose the program you want to download you
have a choice to use "Ascii" or "Xmodem"
download or "Exit". If you continue, you hit
[RETURN] to begin download. Xmodem download
requires that your terminal program has the
capabilities to use this feature. You will
need to use a terminal program with a Capture
buffer such as "Ascii Express Pro". After
you save it, capture it to disk and "EXEC"
the file.

E : The system contains a list of stats on you
as well as general system stats. These
include the last date you called, what caller
number you are, the time you have been on the

system, the time remaining if there is a time
limit, the last caller, your security level
and some of the options active.

F : You can send comments directly to the
Sysop using "Feedback". You will use the
editor to create your message. The Sysop
will be able to reply to your feedback.

G : You can look at a list of "General" files
with this command. Each number listed
represents a different topic. Enter the
number you wish to look at or [RETURN] when
done.

H : General system "Help". This is similar to
this section and is called System.Help.

I : This will list "Information" about the
system such as software type, GBBS][,
hardware configuration, and system sponsor.
You can modify the System.Info file to change
this information.

N : By changing the "Nulls" value, you change
the delay that follows a [RETURN].

O : This will give a list of "Other" GBBS
bulletin board telephone numbers.

P : New users who logged on as one-time guests
can change their mind and can use this
command to obtain a "Password." If you are a
verified user you can use this command to
change your password to 4-7 characters. Your
user number remains the same.

R : If you have mail waiting and wish to "Read"
it, use this command. After each letter you
will have the option to "Auto Reply",

"Continue", or "Re-Read" each letter. Auto-Reply will will let you write a letter back to the person who sent you the letter.

S : You can "Send" E-Mail to a user with this command. Just enter the name of the user or their user number. The user number is the number that is displayed next to their name on bulletins they post. It is also listed next to their name in the user list. If you entered their number, then their name will be shown. The system then verifies that the user exists. Once you are done with the name or number, use the editor to enter the message.

T : This command will "Terminate" your connection from the system. Your mail will be deleted and your stats updated.

U : Using this command, you can get a list of all or some of the system "Users". Next to each users name will be a number that should be used for sending mail.

W : Video "Width" can be changed from the default of 40 to 32, 64, 80, or 132 columns wide.

! : There is an upload option available via this command. It is not normally available to the average user. If you have something to up-load, then let the Sysop know via "Feedback" and he will get back with you.

? : The question mark will give a list of available commands almost anyplace in the system.

* : The asterisk puts you into a section that is
    called SYSTEM, a section for the Sysop only,
    that allows you to run your system.

Sysop Section

A : ABORTs you back to the command mode.

C : CATALOGs the disk. You may catalog any
    slot & drive or volume combination.

D : Allows you to issue any DOS command. If
    you need to specify a slot, drive, or
    volume do it via ",S ,D ,V". (Nowhere
    else should you use ",S ,D ,V".) With a hard
    drive under ProDOS use the full volume name.

   **** IMPORTANT: DON'T USE DOS TO CATALOG. ****
   **** USE THE "CATALOG" COMMAND INSTEAD. ****
 IF YOU USE DOS/PRODOS THE PROGRAM WILL RE-RUN!

F : Allows you to read any sequential text
    FILE on the disk. (The user file is a
    random access file and will not work.)
    You must specify the name and slot/drive
    of the file in order to look access it.
    Exit viewing with a CTRL-X. Enter a "*"
    as the first character of the filename
    to send it to the printer.

G : Lets you GET a file in order to edit it,
    or create a new file. You must either
    enter the name of the file you want to
    edit or a [RETURN] for a new file. In ProDOS
    with a hard drive enter the path name before
    the name of the new file. If   you
    enter a file name, then you will   be

prompted for slot, drive, and volume and the file will be loaded. You will then be sent to the editor. You can modify the data in the file using the editor commands. When you are done, use the "Ok" command as usual. You will be asked for a file name, slot, drive, and volume. The file will then be saved back to disk, over-writing the original file if you used the same name.

K : KILLs a user, eliminating him from your system. You must enter his user number. For example, the user number is 003 the preceding zeros are not needed.

L : accesses the LOG where you have 4 options:

A : ABORTs back to the SYSTEM prompt.

D : DELETEs the userlog. Don't leave user-logs around too long. They take up a lot of space. (See Chapter 5 to disable this option).

S : SHOWs the log. Output will be to the screen.

P : PRINTs the userlog on the printer.

N : allows you to directly add a NEW user to the system without his logging on (which may sometimes be desirable.) This command will NOT check for duplicate users. It is assumed that you know that the user is not a duplicate.

R : allows you to READ, one-by-one, the comments received from new users who answered the questions in your NEW USER INFO file. After

you see what each has to say, you can either
verify him (grant him access to your board)
or go on. If you choose to verify him, you
will be asked at what level. Normally you
assign new users a security level of 1.

P : lets you edit the PASSWORD or other user
stats. You must enter the number of the
user you wish to edit and all his stats
will appear, each preceded by a letter.

A : changes the users name.

B : changes the city/state from which the
user calls. (Don't make this too long:
the name and place calling from may not
exceed 25 characters.)

C : changes the users password. Be sure to
use the correct form. Passwords must be
1-7 characters long. You cannot change
a users "user number" since that is the
order of the record in the user file.
When changing your own password use the
"P" option under the main menu.

D : changes the users phone number. The
presence of a hyphen between the area
code and the number indicates that the
number is to be INvisible to other users
from the Userlist command. That is, 303-
693-1064 is INvisible to other users
while 303 693-1064 is visible. If you
change the second "-" to a "#", "%" or a
"*" then that changes the status of the
user when you use the User.purge
program. The person with a phone number
of 303 693#1064 is deleted 3 months
later than his than others with the same
date, the user with the number 303

693%1064 is deleted 6 months later than other with the same date. The user with an "*" in place of the second "–" is never deleted.

E : changes the users security level to anything between 0 and 63. There are 127 usable security levels that are set with 7 different flags. Each flag may be set independently. In the normal system, FLAG 1 is a verified user and FLAG 7 is the Sysop. To find the value to be used for a flag combination, consult the following table. Find the entry that has the flags set in the combination you want.

FLAG/BIT SECURITY LEVEL TABLE

FLAG LVL 654321	FLAG LVL 654321	FLAG LVL 654321	FLAG LVL 654321
000 NNNNNN	016 NYNNNN	032 YNNNNN	048 YYNNNN
001 NNNNNY	017 NYNNNY	033 YNNNNY	049 YYNNNY
002 NNNNYN	018 NYNNYN	034 YNNNYN	050 YYNNYN
003 NNNNYY	019 NYNNYY	035 YNNNYY	051 YYNNYY
004 NNNYNN	020 NYNYNN	036 YNNYNN	052 YYNYNN
005 NNNYNY	021 NYNYNY	037 YNNYNY	053 YYNYNY
006 NNNYYN	022 NYNYYN	038 YNNYYN	054 YYNYYN
007 NNNYYY	023 NYNYYY	039 YNNYYY	055 YYNYYY
008 NNYNNN	024 NYYNNN	040 YNYNNN	056 YYYNNN
009 NNYNNY	025 NYYNNY	041 YNYNNY	057 YYYNNY
010 NNYNYN	026 NYYNYN	042 YNYNYN	058 YYYNYN
011 NNYNYY	027 NYYNYY	043 YNYNYY	059 YYYNYY
012 NNYYNN	028 NYYYNN	044 YNYYNN	060 YYYYNN
013 NNYYNY	029 NYYYNY	045 YNYYNY	061 YYYYNY
014 NNYYYN	030 NYYYYN	046 YNYYYN	062 YYYYYN
015 NNYYYY	031 NYYYYY	047 YNYYYY	063 YYYYYY

Only 64 possible levels are shown since the Sysop level may not be set in the file, only in the program itself.

The "Y" under the flag means that the flag is set. If the character is an "N" then the flag is not set. As an example, let's say that we want to set flag 1, flag 2, and flag 4 for a user. Look down the chart until you come to the set of numbers that have flag 4 set. (The first one is 8.) Then continue until you find those with flag 2 also. (It's 10.) Finally, continue until you find flag 1 set. The number needed is 11.

Remember that all regular users should have flag 1 set. This means that every verified user should have an ODD-numbered security level. If you assign a user an even-numbered security level he will not have general access because flag 1 won't be set!

Another way of looking at Flags/Bit Security Level is with the following table:

FLAG	$\frac{1}{2}$	1	$\frac{1}{2}$	2	$\frac{1}{2}$	3	$\frac{1}{2}$	4	$\frac{1}{2}$	5	$\frac{1}{2}$	6	$\frac{1}{2}$	7	$\frac{1}{2}$
SECLEV	$\frac{1}{2}$	1	$\frac{1}{2}$	2	$\frac{1}{2}$	4	$\frac{1}{2}$	8	$\frac{1}{2}$	16	$\frac{1}{2}$	32	$\frac{1}{2}$	64	$\frac{1}{2}$

Pick the Flags that you want a person to have and add the value of the numbers below the flag. If you want a user to have Flag 1, 3 and 6 then you add together 1, 4 and 32 for a value of 37. You then enter 37 into the users Security level.

F : allows you to assign the user a one-time upload privilege by placing a "Y" in this field. If UL=1 than everyone can

upload a file.   (See Chapter 5 for more details).

[RETURN] gives you 2 options:

A : ABORTs the changes and goes back to the System menu.

S : SAVEs the changes and goes back to the System menu.

S : SETs the date if you don't have a clock. The format used for the date should be XX/XX/XX. (If you DO have a clock then DON'T use this function.)

Control Commands

CTRL A : Use Control A to chat with a user.   You can chat with a user when he is anywhere in the system but the best place is at the "Command (?-Help):" prompt.   When the program is sending information to the user Control A will not take effect until the program is done doing this.

CTRL L : This Control Command will log a user off the system at whatever point he is at. This is a deadly command but is useful at times when you want a user off instantly.   The program then logs the user to disk.

CTRL X : Use Control X to abort the line you are typing.   It will will delete the entire line that you have typed.

ESCAPE   This toggles between upper and lower case on those Apples that do not have a shift key.

RUNNING YOUR SYSTEM

Running a GBBS][system requires little
effort, but there are some things that must be
done to keep the system operating smoothly. New
users need to be verified to keep the system disk
from running out of space. Since the system log
must be cleared frequently, once a day is recom-
mended. If it is not possible to keep up with it,
there is a way to remove the log file in chapter
5. You will need to check the bulletin board and
kill off old bulletins. Last of all, as Sysop, you
generally get great quantities of mail. You need
to get on and read it so that the mail disk does
not fill up.

When you log on the system, there are 3
possible messages that you may see. The first is
that there are new users, the second that there
are new bulletins, and the third that you have
mail. The first thing you should do is to read
your mail if you have some. Once you are done with
your mail, go to the bulletin boards and read the
new bulletins. If you board is getting full, you
might wish to kill some of the old bulletins
although there is now an option that will
automatically kill off bulletins as new ones are
added. You should back these up often since a
user could kill off all of your bulletins by
adding blank ones.

After you have done all of the above, go to
the SYSTEM menu. Start things off by going through
the log with the "L" command. Show the log and
then delete it. If you got the message that there
are new users then use the "R" command to either
verify or kill them. You will be shown all the

known info about the user. His name and stats will
be left along with the comments he left for you.
The normal questions asked by the system are: 1)
What is the callers real name? 2) What type of
computer do they use?

You will be given a list of options after the
information is displayed. If you wish to send the
user a letter, then you can use the "R" command.
Though it is not displayed, it will "REPLY" to the
user. If you wish to verify the user, use the "V"
command. Enter 1 for the security level.   After
you finish with all the users, delete the file.

After these steps have been completed, you
will be done with the general system maintenance.
You may wish to use the "C" (catalog a disk)
command to check on your disk space situation.
Trying to decide what to do when you run out of
space can be a problem. Better to keep a watch on
things and stop a problem before it happens. When
you finish with the system commands, you can log
off the system or type "A" to abort back to the
user section.

GBBS][SECURITY SYSTEM

It seems that the most difficult part of
learning how to run and modify a GBBS][is how
the security system works.   Once you understand
it, you will realize that it is quite simple. The
system is based around a group of "switches" that
we will call "FLAGS". There are a total of 7 flags
user on the system. Each flag is like a switch, it
can be either OFF or ON. Each flag is like a BIT
if that helps. You can set these flags in any
combination for a user. Since there are 7 flags
and each is independent, there are a total of 128
security levels available. When you first get the

system, only 2 flags are in use. Flag 1 shows that
the user is verified. Flag 7 shows that the user
has Sysop status. Flags 2-6 are undefined.   They
can be made to represent anything you wish.   As an
example, if you wanted to have 3 boards: general,
6502, and CP/M then with the following lines of
code, you could make each board controlled by a
separate flag.

```
1315 IF I$="6502" AND USR(2) THEN BB=2:S=6:D=1:
     V=0:GO TO 5000
1317 IF I$="CP/M" AND USR(3) THEN BB=3:S=6:D=1:
     V=0:GO TO 5000
```

The access for the general board is in the
program set for flag 1 already. In GBBS][, the
USR() statement is used to check the security
flags.   In the above statements, USR(2) and USR(3)
were both used. This is the way that flags are
tested. In line 1315 we check to see if they typed
"6502" (I$).   If they did then they wish to go to
the 6502 board. We then check USR(2) to see if
they have flag 2 set. If they do, then they will
be allowed access to the board. Likewise in 1317
we use a different command and flag 3. Now either
of these flags can be used to access different
things.

To allow a user to access the general board
and the CP/M board but not the 6502 board, we
would write down what flags we want set. In this
case, we would want flags 1 and 3 set. We would
then look the combination up in the "FLAG/BIT
TABLE" that is in chapter 3. In this case, the
level needed would be 9. An understanding of these
flags will be needed if you wish to make any
special mods to the system. Make sure that all
users on the system have at least level 1. Level 0
is   un-verified user status.   There is   more
information of programming available in chapter 5.

USING: GBBS][CONFIG

This program is used for changing the con-
figuration of your hardware. If you get new hard-
ware or change your current hardware, then it will
be necessary to tell the system the new infor-
mation. This program will also change a few soft-
ware functions of the system. When you type "RUN
GBBS II CONFIG" (or "RUN GBBS.CONFIG for ProDOS)
you will get a menu of possible options. If you
use option 1, your entire system will be wiped
out. For changing individual parts, options 2-5
should be used. The only option that I will ex-
plain here is option 5. The rest are hand-holding.
Option 5 allows you to change the CONTROL KEYS
used by the system. Once you have used the system,
you will become aware that there are 3 keys that
cause things to happen. These keys are ctrl-s,
ctrl-x, and ctrl-n. Because ctrl-s is a known
standard, it can not be changed. Ctrl-x and ctrl-n
on the other hand, can be changed to fit your
taste. Once you select option 5, you will be asked
for the "File Stop" character. This is the char-
acter, initially ctrl-x, that allows you to exit
from bulletins, mail, etc. Whatever key you press
will be used. You will then be able to edit the
message that goes with the key. You will then be
asked for the "File Skip" character. This char-
acter, normally ctrl-n, is used to skip to the
next bulletin. You can then edit the message. You
can then edit the "Mail Divider" last of all. It
is a string of 39 characters that is used to
"divide" sections of text up and make it easier to
read.

USING: GBBS][USERLIST

This program requires the use of a printer. If you do not have a printer, you can not run it. This program assumes that your printer is in slot 1. This program will get a list of system users and sort them by name, phone, last date on, user number, or security level. The sorted list will then be printed on your printer. Insert your MASTER DISK and type "RUN GBBS II USERLIST" (or "RUN GBBS.USERLIST" for ProDOS). The program will run and ask you which field to sort by. You will then be asked if you want the passwords shown. Last of all, you will be able to mask out users if you want. If you tell the system a security flag to screen by, only users will that flag set will be printer. Use 0 for all users. Sorting may well take a minute or two so don't get concerned if things seem to come to a halt.

USING: GBBS][USERPURGE

This program will kill off old users from your system. Depending on the popularity of your system and your disk space, you will want to kill off users that have not called in a long time. With this program, you can enter a date to kill users by. I would suggest that you kill users that have not been on for 1 month at the minimum. Generally, 3 months is a more reasonable length of time. Example: If today is 8/12/85 and you want to kill all users that have not called in the last 3 months, you would kill all users that have not called since 5/12/85. To run the program, "RUN GBBS II USERPURGE" from the MASTER DISK (or "RUN GBBS.USERPURGE for ProDOS).

There are 2 modes of killing users. If you answer "Yes" to the "Request before killing" question then the system will ask you before it deletes the User. Otherwise, they will be deleted automatically. Their mail will also be deleted at the same time. After the purge is complete, some statistics will be printed out. The number of free slots is how many more new users you can get before the user file gets any bigger. The allocated number of slots is the number of users. The total number of slots includes both empty and filled slots.

BBS MODIFICATIONS

You may customize your GBBS][BBS program in a variety of ways. Be sure to work on a back up copy of your program and try out the new feature before you SAVE it.

When reference is made to GBBS][BBS, it refers to whatever the Applesoft part of your board is named on the disk.

Though the mods are shown for the DOS version, all the mods will work under ProDOS unless noted. The differences between the two different operating systems is minimal. The two main differences are in the file naming and the way you specify a drive. In DOS where S,D,V are set for slot, drive, volume, ProDOS X$ is set to the pathname that you want to use. As far as file names; Under DOS, files are named like "Dx/y" and such. Under ProDOS they are "Dx.y" and such. The slash is a period under ProDOS.

HOW TO USE AN 80 COLUMN CARD

1)   For DOS:

     Load in GBBS][BBS.

     For ProDOS:

     Load in "GBBS".

2)   Add a line:

     7 S = 3

3)   Save the file back to disk.

HOW TO ADD ANOTHER BULLETIN BOARD

1)   Load in GBBS][BBS.

2)   Add a line to your program to check for a
      request to access that board and the correct
security level.   In the example I will be adding
this board from the command menu and it will be in
SLOT 6, DRIVE 1, VOLUME 0.   The board will be
available to people with security flag 2.   The
command to access the board is "B2".

DOS 3.3

```
1345   IF I$="B2" AND USR(2) THEN
       BB=2:S=6:D=1:V=0:GOTO 5000
```

ProDOS:

```
1345   IF I$="B2" AND USR(2) THEN
       BB=2:X$="/STORAGE/BULL.1/":GOTO 5000
```

        This line makes the new board accessible from
the main command menu.   If we analyze the line we
see that I$ is first checked to see if it is "B2",
the command we want.   If it is then we make sure
that security flag 2 is set.   If both criteria are
met then BB is set to 2.   This will tell the
bulletin section that you want to use bulletin
board # 2.   S is the slot, D is the drive, and V
is the volume. Under ProDOS, X$ is the pathname of
the bulletin board.

3)   Save GBBS][BBS back to disk.

DIVERSA-DOS MOD

This mod allows you to use Diversi-Dos 3-C with GBBS II. If you have a hard drive that supports Diversi-Dos this would allow you to free up approximately 10.5K for more mods.

1)   Load in GBBS][BBS.

2)   Change the "&E/ZZ$" at the beginning of line 4360 to: "&E/ZZ$:&E/ZZ$".

3)   Change the "&E/ZZ$" at the beginning of line 8510 to: "&E/ZZ$:&E/ZZ$".

Now when you run Diversi-DOS it will work correctly with your system. W A R N I N G: You can NO longer use your system with normal DOS 3.3.

USING THE ProDOS CHAIN COMMAND

By chaining together segments of the program, you have more memory available for longer messages and more modifications. The following example divides the program into three parts (other people have divided the system into a greater number of smaller parts):

1)   Load GBBS2 into memory.

2)   DEL 1000,3999
     DEL 4200,6999
     DEL 7500,7999

3)   Add the Line:

     1000 PRINT D$ "CHAIN /prefix/GBBS2.2,@1000"

4)   Save to Disk as GBBS2.1

5)   Load GBBS2 into memory.

6)   DEL 0,999
      DEL 7500,7999

7)   Add the Lines:

      10   &L:PRINT CHR$(4)"RUN /prefix/GBBS2.1"
      1260 IF I$="*" AND USR(7) THEN POP: PRINT D$
            "PREFIX" DR$: PRINT D$ "CHAIN /prefix/
            GBBS2.3,@7500"
      4075 GOTO 10
      4770 D1$=A1$:D2$=A2$: CALL 54915: PRINT D$
            "CHAIN /prefix/GBBS2.1,@6700

8)   Save to Disk as GBBS2.2

9)   Load GBBS2 into memory.

10)   DEL 0,3999
      DEL 4200,5999
      DEL 6200,6799

11)   Add the Lines:

      10   &L:PRINT CHR$(4)"RUN /prefix/GBBS2.1"
      7535 IF I$= "A" THEN GOSUB 8900: CALL 54915:
            PRINT D$ "CHAIN /prefix/GBBS2.2,@1200"

12)   Save to Disk as GBBS2.3

13)   Load GBBS into memory.

14)   Change the following line:

      200 PRINT CHR$(4) "RUN GBBS2.1"

15)   Save to Disk as GBBS.

CHANGING EXISTING DRIVE ALLOCATION

1)   Load in GBBS][BBS.

2)   Initially,   the general files, downloads,
     uploads,   and voting files are on the SYSTEM
DISK.   You may wish to have a separate drive for
one or all of these.   Here are the lines that
control these sections and set set the drive
parameters.

3)   After changing the program line(s), copy the
     appropriate files to their new slot, drive,
and/or volume. For ProDOS, move the files to the
new directory.

DOS 3.3 Downloads change:

```
1300 IF I$="D" THEN S=slot:D=drive:V=volume:
     DB=1:GOTO 4500
```

ProDOS Downloads change:

```
1320 IF I$="D" THEN X$="pathname":DB=1:
     GOTO 4500
```

and transfer files D1,   D1/1,   D1/2, D1/3, D1/4 to
the right DOS 3.3 slot, drive, volume or the right
directory in ProDOS.

DOS 3.3 General files change:

```
1320 IF I$="G" THEN S=slot:D=drive:V=volume:
     GF=1:GOTO 4800
```

ProDOS General files change:

```
1350 IF I$="G" THEN X$="pathname":GF=1:
     GOTO 4500
```

and transfer files: G1, G1/1, G1/2, G1/3 to the
right DOS 3.3 slot, drive, volume or the right
directory in ProDOS.

DOS 3.3 Uploads change:

    1410 IF I$="!" AND (UP OR USR(7)) THEN S=slot:
         D=drive:V=volume:GOTO 4900

ProDOS Uploads change:

    1440 IF I$="!" AND (UP OR USR(7)) THEN X$=
         "pathname":GOTO 4900

DOS 3.3 Voting change:

    1250 IF I$="V" THEN S=slot:D=drive:V=volume:
         VS=1:GOTO 6200

ProDOS Voting change:

    1250 IF I$="V" THEN X$="pathname":VS=1:
         GOTO 6200

and transfer files: V1/1, V1/2, V1/3, V1/4 to the
right DOS 3.3 slot, drive, volume or the right
directory in ProDOS.

3)   Save GBBS][BBS back to disk.

HOW TO ADD ANOTHER DOWNLOAD SECTION

1)   Use an editor to create a file named "Dxx"
      where xx is the section # you want to add.
We will use "2" for our example.

2)   Into this file put the names of the files you

have for downloading and how long they are.
the file size in sectors minis 1 (or the file
length in blocks times 2 minus 1). We will have 3
files in this section:

    023 SUPER-EDIT
    006 DISK COPY 48K
    023 BACK SONGS

3)   Load in GBBS][BBS.

4)   Add the line that will access the new board.
      We will say that our new section is in SLOT
6, DRIVE 2 (or for ProDOS in /STORAGE/STUFF/). We
already know that it is section # 2. We will make
"D2" the command to access it. The required
security is flag 2. We will add a line that looks
like this:

DOS 3.3:

    1275 IF I$="D2" AND USR(2) THEN DB=2:S=6:D=2:
         V=0:GOTO 4500

ProDOS:

    1275 IF I$="D2" AND USR(2) THEN DB=2:X$=
         "/STORAGE/STUFF/":GOTO 4500

5)   Save GBBS][BBS back to disk.

HOW TO ADD FEEDBACK TO A USER

1)   Load in GBBS][BBS.

2)   Imagine that you have an online D & D game
      going on and you would like the players to
have an easy way to leave their comments and
questions to the Dungeon Master. You are not the

DM since another user is. How do you add a
FEEDBACK section for your DM? The DM's name is
"THE DM" (real original) and you want this feed-
back labeled "<><> COMMENTS FROM A PLAYER <><>".
(The "<><>" are on the line just for looks. They
don't affect the performance of this mod.) Adding
this line would enable us to leave the feedback:

    1375 IF I$="DM" AND USR (3) THEN 1500

DM is the name of our command. The feedback is
only accessible to those people of security level
3. You must branch to a separate part of the
program as this command requires more than 1 line.

DOS 3.3:

```
1500 O$=E$+"A question to the DM"+E$:
     GOSUB 7000:GOSUB 7100
1510 IF NOT X THEN O$=E$+"ABORTED":GOTO 7000
1520 D1$="THE DM":D2$="<><> COMMENTS FROM
     A PLAYER <><>"
1530 D3$=".COMMENT SAVED":CR=1:GOTO 6800
```

ProDOS:

```
1500 O$=E$+"A question to the DM"+E$:
     GOSUB 7000:GOSUB 7100
1510 IF NOT X THEN O$=E$+"ABORTED":GOTO 7000
1520 D1=the user number of the dm:D2$="<><>
     COMMENTS FROM A PLAYER <><>"
1530 D3$=".COMMENT SAVED":CR=1:GOTO 6800
```

Line 1500 serves as a prompt to the user. Line
1510 goes to the editor. If X=0 then the user
aborted. Line 1520 will abort him. Otherwise the
appropriate variables are set.

DOS 3.3:

D1$="who you are sending to".
D2$="heading for the letter".
D3$="response when letter is saved".

ProDOS:

D1=the persons user number
D2$="heading for the letter".
D3$="response when letter is saved".

(CR must be set to 1 or D2$ will not be added. If
you don't want D2$ at the top of the letter then
set CR=0.) The command does not need to stretch
over 4 lines as it did. Here is how the same
command can be written in just 2 lines:

    1500 O$=E$+"A QUESTION TO HIS HIGHNESS":
         GOSUB 7000:GOSUB 7100: IF NOT X THEN
         O$=E$+"ABORTED":GOTO 7000   .

    1510 D1$="THE DM":D2$="<><> COMMENTS FROM A
         USER <><>":D3$=".COMMENTS SAVED":CR=1:
         GOTO 6800

3.   Save GBBS][BBS back to disk.

HOW TO ADD OTHER SYSOPS

1)   Load in GBBS][BBS.

2)   Before you make this very simple modification
      be sure to recognize that you are giving
another user power equal to your own as SYSOP!

To do this we just add an extra line to the
program that checks the name against that of the
persons logging on.   When he logs on, security
flag 7 is set which enables access to the sysop
commands.   In our example, "FRED BAXTER" is   our

second sysop.

    1035 IF A1$+" "+A2$="FRED BAXTER" THEN POKE
        972,PEEK(972)+64

Another way of writing the same line is:

    1035 IF A1$+A2$="FREDBAXTER" THEN POKE 972,
        PEEK(972)+64

3)   Save GBBS][BBS back to disk.

HOW TO LOAD A DIFFERENT DEFAULT BULLETIN BOARD

1)   Load in GBBS][BBS.

2)   Initially line 190 loads in the default
      board.   Change BB to the name of the board
you want to load.   If you want to have board 2
loaded in then you would change the line to:

    190 BB=2:S=B1:D=B2:V=B3:GOSUB 8600:GOSUB 8400:
        IF CT$<>DA$ THEN CT=1:CT$=DA$

3)   Save GBBS][BBS back to disk.

HOW TO ADD ANOTHER COMMAND SECTION

1)   Load in GBBS][BBS.

2)   Imagine that we want to have a D & D section
      on our board, but we don't want to just add
another bulletin board to be accessed from the
main board.   We want a totally new section with
new commands. We want it to be for players only.

       Adding a second command section is not com-
plicated at all. To do this, we will just dedicate

a group of lines to our new section. Then we will
use Applesoft's GOSUB command to remember what
board we came from. The first thing that you must
understand about sections is that they are like
sub-routines. They use GOSUBs within themselves.
In other words, you use RETURN statements to get
back to the top of the section. To exit from a
section back to the section it came from, you do a
POP then a RETURN. (If you don't understand this
don't be too alarmed, I still find myself won-
dering at times.) The first two lines of the
board must be in a special format. They are like
the following:

    1500 O$=E$+E$+"D&D COMMAND:":GOSUB 7000:
         GOSUB 8000

    1510 GOSUB 1520:GOTO 1500

Line 1500 may be in any format you like. Line
1510 is the line we MUST have. This is how it
works:

    When you do a GOSUB and a RETURN, program
control returns to the statement after the GOSUB.
In this case, we GOSUB the next line. After that
statement is executed we RETURN to line 1510,
after the GOSUB statement. The next statement is
a GOTO 1500 which goes back to the beginning of
the section.

    If we were to go to another board at this
point, then the stack would not be POPped, and it
would remember where it came from. Make sure that
you do not use a GOTO command. If you insist on
using a GOTO then a POP must first be used. For
the rest of our section we might have something
like:

    1520 IF I$="?" THEN F$="D & D MENU":S=I:D=J:

```
              RT=1:GOTO 9500
      1530 IF I$="B" THEN BB=2:S=6:D=1:GOTO 5000
      1540 IF I$="T" THEN 4000
      1550 O$=E$+"ILLEGAL COMMAND":GOSUB 7000:RETURN
      or
      1550 O$=E$+"ILLEGAL COMMAND":GOTO 7000
```

The reason that GOTOs are used in the IF/THENs is that there is a RETURN at the end of all of the used routines. The line 1510 uses a GOTO 7000 instead of a GOSUB/RETURN sequence. There is a RETURN at the end of each sub-routine, so by using a GOTO we just use the RETURN at the end of the 7000 routine. It is more efficient than the GOSUB/ROUTINE method.

3)   After your section is finished, write up a menu for it.

4)   Save GBBS][BBS back to disk.

HOW TO ADD ANOTHER GENERAL FILES SECTION

1)   Load in GBBS][BBS.

2)   You may have as many general sections as you want. Add the following line to the program:

DOS 3.3:

```
      1355 IF I$="G2" AND USR(1) THEN S=6:D=1:V=0:
           GF=2:GOTO 4800
```

ProDOS:

```
      1335 IF I$="G2" AND USR(1) THEN X$="/SYSTEM/":
           GF=2:GOTO 4800
```

The command to access this section is "G2".

The user must also have flag 1 set. GF is 2 because this is the second section. I used slot 6, drive 1, volume 0.

3)   Save GBBS][BBS back to disk.

4)   Edit a file that has the directory of available files. The first line of this file must tell how many files there are available. The file must be on the drive specified in the program. The file must be named "Gsection#". Since we are using section 2, we would call our file "G2". A sample directory might look like this:

        4
        1> DISK DRIVE TUNE UP.
        2> ERROR DIAGNOSIS
        3> TIPS ON APPLESOFT
        4> GRAPHICS TRICKS

The files must be named in the form "Gsection#/file#". In this case, the file dealing with ERROR DIAGNOSIS would be named "G2/2". All the files must be on the drive you specified. You can use any editor to make this file. The built-in editor works fine.

LINE 110 OPTION CHANGES

1)   Load in GBBS][BBS

2)   On line 110 of the program are a set of variables that can be changed to make many different things happen. The following will just list the variables and the values that they can have. Just change the value on line 110 but don't change anything else.

VW = The default video width (normally 39)
ML = The number of lines available in the system
     editor. Be sure not to be carried away about
     this. If you make the editor too big, the
     system will run out of memory.
MB = Maximum number of bulletins that can be
     posted on a bulletin board. Again, bulletins
     also take memory. Don't get carried away.
LG = This is what will be done with the log file.
     If LG=0 then no log file will be written. If
     LG=1 then the log file will be written to
     disk. If LG=2 then the log file will be
     printed on the printer. You must leave your
     printer on all the time to use this option.
WW = The default status of word-wrap. If this is
     255 then word-wrap will default to ON.
TM = The system time limit. If you don't have a
     clock then this will not work. When set to 0
     there is unlimited access. Otherwise this is
     the time limit in minutes.
KL = This is to turn bulletin "auto-kill" on. If
     KL is set to a number, then when the limit
     has reached that number of bulletins on a
     board, one of the earlier bulletins will be
     killed off. It is disabled when set to 0.
KB = This is the bulletin number to be killed when
     auto-kill is enabled. Generally it is set to
     2 or 3 or something low like that.
UL = This is the multiple upload toggle. When you
     give a user upload status, this is the flag
     that will determine whether he can do only a
     single upload or multiple uploads.
NW$= This is the command that new users must type
     to get a password (normally 'NEW'). If it set
     to null then no new users can get on. If it
     is set to some other string that you tell
     only certain people, then only those new
     users can log on using that command.

DATA FILE STRUCTURE

There is a file on the SYSTEM DISK called DATA. This file contains information vital to the correct operation of your system. The following is a list of the structure of that file and what the information means. If by some chance your DATA file is destroyed, you may be able to re-create it.

Line 1 : Printer slot, Clock slot, Current year (/84), Current date (xx/xx/xx)
Line 2 : Caller number, Next bulletin number to be used, Number of users, Calls today
Line 3 : System slot, drive, volume, E-Mail slot, drive, volume, Bulletin board #1 slot, drive, volume
Line 4 : Name of Sysop, Name of system
Line 5 : Counter for welcome message, Date for calls today
Line 6 : Mail divider
Line 7 : File stop character, File stop message
Line 8 : Bulletin next character, Bulletin next message
Line 9 : Your remote password
Line 10: The last user that called

AMPER ROUTINE DEFINITIONS

&A: Get a line of input from the modem/console
&B: Output a line(s) of text to the modem/console
&C: Vue the currently open disk file
&D: Get a line of input with word wrap
&E: Read a line of input from a disk file
&F: Get a single keypress
&G: Reset the modem
&H: Wait for a call
&I: Hang up the modem
&J: Check bit table for voting

&K: Not Used
&L: Set "re-run" vectors for Applesoft
&M: Set all output to modem (includes print)

COMMON MEMORY USAGE

0	:	Contains current video width
1	:	>127 accept lower case input
		is also echo character for output
2	:	Set limited input mode (strips
		" , ; :)
4	:	Contains number of characters of input
		after &D
5	:	Word-wrap on/off flag. >127 is on

MODEM/RS-232 SELECTION AND HOOKUP

GBBS][actually supports more modems and serial cards than are listed in the software program itself. This is because some newer or lesser known hardware is completely compatible with the more familiar standards listed in the CONFIG program. For example: The Videx PSIO interface card operates as an Apple SSC card. If you had a Videx, then you could tell CONFIG that you had an Apple SSC in that slot and it wouldn't know the difference! Another example is the Multi-Tech Modem][which will work if configured as a DC Hayes Micromodem][. If your card is not listed then check your manual and see if it says that it is compatible with one of the supported boards. Here is a current list of boards and how they can be configured:

Actual board	Configure as	In what slot
Apple /// serial port	Apple SSC	7
Videx PSIO	Apple SSC	Actual slot
Basis 108 serial port	Apple SSC	1
Multi-Tech Modem][	DC Hayes Micromodem][	Actual slot
Apple //c serial port	Apple SSC	2

If your modem is not listed above and you can not find compatibility mentioned in your manual, then consult your dealer.

RS-232/MODEM COMPATIBILITY

You might need to give special attention to the way your modem is connected to your computer. If you have a single speed modem, then you may use most any "straight" cable. To get a single speed modem to work, you need the following pins to hooked up: 2, 3, 7, 8, 20. Generally 4 and 5 are also hooked up, but this can vary depending on the modem.

There are several ways of hooking up multiple speed modems. The hookup varies from modem to modem. The following list shows how to hookup many of the popular modems and serial cards out on the market. If you can not find your modem listed, then look for a "compatible" modem if one exists. If you can not find one, or have problems, give us a call. Generally we can make most modems work.

Apple Modem 1200; Use cable #1; configure GBBS as Apple Modem 1200. Set switches: All up.

Apple Super Serial; configure GBBS as Apple Super Serial Card. Set switches: 1-1-off, 1-2-off, 1-3-off, 1-4-on, 1-5-off, 1-6-on, 1-7-on, 2-1-on, 2-2-off, 2-3-off, 2-4-on, 2-5-on, 2-6-on, 2-7-off.

Apricorn Serial Serial Imager; configure GBBS as Super Serial Imager. Set switches: 1-on, 7-on.

Hayes Smartmodem 1200; Use cable #2; configure GBBS as Smartmodem 1200; Set switches: 1-up, 2-n/a, 3-n/a, 4-n/a, 5-up, 6-up, 7-n/a, 8-down.

Novation Smartcat Plus; Use cable #3; configure GBBS as Smartcat Plus; Set switches: 1-off, 2-on, 3-off, 4-on, 5-on, 6-off, 7-on, 8-on.

Prometheus Promodem 1200; Use cable #1; configure
GBBS as Promodem 1200; Set switches: 1-on, 2-on,
3-off, 4-off, 5-off, 6-on, 7-off, 8-off, 9-off,
10-off.

Prometheus Promodem 1200A;   No cable needed;
configure GBBS as Promodem 1200; Set switches: 1-
off, 2-off, 3-off, 4-n/a, 5-n/a, 6-n/a.

TransModem 1200; Use cable #2; configure GBBS as
Hayes Smartmodem 1200; Set switches: 1-on, 2-off,
3-n/a, 4-off, 5-n/a, 6-on, 7-n/a, 8-n/a.

US Robotics Password; Use cable #4; configure GBBS
as Password; Set switches: All up.

US Robotics Courier 2400; Use cable #3; configure
as Courier 2400; Set switches: 1-off, 6-off.

GENERIC MULTIPLE SPEED MODEM

        Any multiple speed modem can be made to work
on GBBS.   It is just a matter of how smoothly a
person can call up and log on your system.   With
the generic multiple speed modem driver, a caller
must hit [RETURN] a few times so that the board
can detect the baud rate they are calling at. The
other driver auto-sync into the proper baud rate
without the user having to do anything.

Generic Multiple Speed Modem 300/1200; Use cable
#4; configure GBBS as Multiple Speed Modem. Set
switches: Set your modem so that it responds to
DTR, Auto-answers the phone, returns the status of
Carrier Detect.

Generic Multiple Speed Modem 300-2400; Use cable
#4; configure GBBS as Multiple Speed Modem. Set

switches: Set   your modem so that it responds to
DTR, Auto—answers the phone, returns the status of
Carrier Detect.

RS—232 CABLE CHART

RS—232		MODEM
#1: 2	--->	9
3	--->	5
4 to 5		
6	--->	2
7	--->	3
8	--->	7
20	--->	6

** Note: On the modem end of things is a din—9
        connector for the Apple modem.

RS—232		MODEM
#2: 2,3,4,5	--->	2,3,4,5
6	--->	12
7,8,20	--->	7,8,20
#3: 2,3,4,5	--->	2,3,4,5
6	--->	8
7	--->	7
8 to 20	--->	20

** NOTE: There is a 3—way connection between
        pins 8 and 20 of the rs—232 and pin
        20 of the modem.

RS—232		MODEM
#4: 2,3,4,5	--->	2,3,4,5

                    7,8,20   --->   7,8,20

            Apple //c to Apple Modem Cable

            DIN-5   MODEM
            --------   -------
              1   --->   6
              2   --->   3
              3   --->   7
              4   --->   9
              5   --->   5

** NOTE: The Apple //c pins are numbered by the
           DIN standard not by Apple's numbering.

    If you can not locate the cable need, then
you can get them from us. We try to keep all the
cable in stock. Just tell us what type of cable
you need:

                Micro Data Products
                 (303)-699-1161

                    OTHER MODEMS

    If your modem is not listed as a usable
modem, but it supports auto-answer, then you can
probably use it with GBBS][. First you must get
a cable that supports the following pins: TD, RD,
GND, CD, DTR. If you are using a 300/1200 modem
then it needs to support the HS (high speed) line.
The HS pin if used must be connected to DSR on the
RS-232. To make your modem work, you must set its
switches (or it must default) to the following
operating conditions:

    1) Auto-answer phone when DTR is high.
    2) Use DTR (not override it).
    3) Use TRUE CARRIER DETECT (not override it).

4) Not respond to any commands sent to it by
the computer. (If it is a smart-type modem
and takes commands,   then disable its
command recognition.)
5) Hang up/reset upon loss of DTR.

Once you have set your modem to work with the
following conditions, select either "300 baud
modem" or "300/1200 baud modem from config.

GBBS][MAIN ROUTINES

In writing GBBS][I tried to keep it very flexible by using subroutines. All of these routines may be accessed by code which you yourself write and add to the board. In almost every case at a main routine (with the exception of SYSTEM), you should gosub to the sub-routine and you will return back to the line from which you originally called the sub-routine from.

From the command menu all routines should be accessed with a GOTO instead of a GOSUB. This is because the command routine does a GOSUB inside of itself (more about that in chapter 5) so that you need not GOSUB every routine individually. The [RETURN] inside of of the routine will send it back to the COMMAND prompt. GOOD LUCK WITH ANY MODS YOU MAY MAKE!

GENERAL CHANGES

General changes can cover a lot of things. I will simply discuss how you can add text output and input statements. To output a string of text, the procedure is fairly simple. It is not like BASIC, however, in which you use a PRINT statement. If you use a PRINT statement then the output will go to the console only. To output to the modem also, the text must be assigned into O$. After that, you just need to GOSUB 7000 (the routine that outputs the text in O$). Now, if we wanted to output a line that said: "HELLO OUT THERE" we could just add the line:

XXXX O$="HELLO THERE":GOSUB 7000

Now, that statement would output "HELLO THERE" to the modem. You may find that a round-about way to output, but it has some advantages:

1) All output is through 1 routine. To change something about ALL the output just requires changing 7000.

2) You may have fragments sticking out (like a ";" in BASIC) and still issue DOS /ProDOS commands.

3) You can output a group of lines in 1 statement.

When you normally output, a [RETURN] is NOT added to the end of the line. You must add the [RETURN] yourself by adding the variable E$ to O$ where you want [RETURN]s. Ex: We want a [RETURN] after the line so we say:

XXXX O$="HELLO THERE"+E$:GOSUB 7000

Note that the E$ is added to O$ to give the [RETURN]. If we wanted 2 [RETURN]S then we would have to add 2 E$'s. Now, to output a whole section of text we just do the following.

XXXX O$="HELLO THERE"+E$+E$+"THIS IS A TEST OF THE"+E$+"OUTPUT ROUTINES USED WITH GBBS]["+E$:GOSUB 7000

If we RUN this, then we see:

HELLO THERE

THIS IS A TEST OF THE OUTPUT ROUTINES USED WITH GBBS][

There are several routines available to INPUT text:

1) Normal input
2) Numeric input
3) Input without commas and colons
4) Single character input

Like output, input is done through GOSUBs to special routines. Normally, the input is returned in I$. If numeric input is used, then it is returned in A as well. To ask a question such as: "WHAT IS YOUR NAME?" and input the response would require:

XXXX O$="WHAT IS YOUR NAME?":GOSUB 7000:
     GOSUB 8000

The answer would be returned in I$. There is a second variable that you need be aware of: CR. CR controls whether to allow just a single [RETURN] to be entered as the reply to your request for input. Normally, a single [RETURN] is not accepted. To allow a single [RETURN] as a response just set CR=1 before the GOSUB. Here are descriptions of the 5 input routines available:

GOSUB 8000: General line input. CR control [RETURN].

GOSUB 8100: General numeric input. Returns the value of the input in A, the actual input in I$ and CR controls [RETURN].

GOSUB 8200: Same as GOSUB 8000 except no commas or colons allowed.

GOSUB 8300: Same as GOSUB 8000 except only the first character of input is returned in I$.

GOSUB 8350: Gets a single character. Like an Applesoft GET statement. CR has no effect. [RETURN] is a legal response.

NOTE: Looking through the listing of the GBBS][BBS program will answer many questions.

MAIN ROUTINES

4000 – Terminate. The user is given one chance to abort.

4100 – Chat when in chat mode. You may type "#XX" where XX is a number from 0 to 127 and the current user will have his security changed to that number. If you allow the user to terminate at that level then he will be at that level the next time he calls. If his level is greater than 63, then he will be at that level minus 64 next time.

4200 – Your status. It will show the message in O$(X) where X is the flag from 1 to 7. O$() is defined in line 180.

4300 – Userlog. As Sysop, you will have the option of displaying the users password. You will see everyone's phone # whether or not it is set to be visible.

4400 – Feedback to Sysop. This will let the normal user leave a message in the Sysop's mail box.

4500 – Downloads. Upon entry, DB should be set to the download section that you wish to use. S, D, V should contain the slot, drive, and volume of the drive to be used or X$ should be the pathname to be used.

4600 - Change null value.

4650 - Makes phone number visible or invisible to
       non-Sysops.

4700 - Change video width.   Lets the user set the
       video width that he would like to use.
       Saved in USER file.

4800 - General files.   Assign GF the section
       number.   S, D, V should contain the slot,
       drive, and volume of the drive to be used
       or X$ should contain the pathname to be
       used.

4900 - Uploads. Doing a GOSUB here will allow the
       user to upload a file of unlimited length
       and up to 255 characters per line.   The
       file is saved as "U-name #caller number".
       Only users with upload can access this.

5000 - Bulletin sub-system.   BB = Bulletin board
       to use.   If you try to access a board that
       the system has not used before, it will
       create it.   You must also assign S, D, V
       the current slot, drive and volume of the
       drive or X$ the current pathname.

6000 - Send electronic mail.

6200 - Voting sub-system. VS = Voting section to
       use. You must assign S, D, V, the current
       slot, drive, and volume of the drive or X$
       the current pathname.

6300 - Force a user to vote. VS = Voting section
       to use. S, D, V, or X$ must be assigned. If
       the user has not voted, then they will be
       put into the voting section. Generally you

gosub this during logon if you have a
section that you want all users to vote on.

6500 – Read electronic mail.

6800 – Send a letter. You just assign D1$ the
name of the user the mail is for. Under
ProDOS, assign D1 the user number of the
person. If CR=1 then the heading in D2$
will be added to the top of the letter.

7000 – Output. This will output the data in O$.

7100 – Editor. If you are the Sysop and you use
the "G" Command, then you will be able to
load a file from the disk.

7500 – System. This shouldn't be accessed except
from the menu that is at line 1200.

8000 – General line input. CR control [RETURN].

8100 – General numeric input. Returns the value
of the input in A, the actual input in I$
and CR controls [RETURN].

8200 – Same as GOSUB 8000 except no commas or
colons allowed.

8300 – Same as GOSUB 8000 except only the first
character of input is returned in I$.

8350 – Gets a single character. Like an Applesoft
GET statement. CR has no effect. [RETURN]
always legal.

8400 – Clock read. This will return the date in
DA$, the time in T$ and the time connected
in seconds in T. If you write your own
clock routine, then it must follow these

parameters and sit between lines 8420 and 8460.

8500 – User read. Assign A to the user number you want and GOSUB this routine. All the data on the user will be returned in the following strings: D1$ (first name), D2$ (last name), D3$ (password), D4$ (phone #), D5$ (where from), D6$ (last on), F (security level), Z (real # of last read bulletin), C (video width/upload).

8550 – User write. Assign A to the user number you want to write. All the data in that is read in the 8500 user read routine will be written.

8600 – Title read. Input bulletin titles for board BB.

8700 – Title write. Doing a GOSUB to this routine will save the titles of the current board back to disk if the board has been changed. If CH=1 then the board has been changed.

8800 – Turn printer on.

8810 – Turn printer off.

8900 – Set error trapping.

9000 – File read. File name is in F$ using S, D, V for slot, drive, and volume or X$ for pathname. R=Action code. R=1 Normal output. R=2 Print S$ then normal output. R=3 Normal output and accept FILE SKIP CHAR (CTRL-N). R=5 Show file, disable FILE STOP CHAR (CTRL-X).

9100 – Editor read. This routine will read a file into the D$() array. The number of lines read will be returned in X. F$ contains the filename. S, D, V or X$ is also used.

9200 – Editor write. This routine will write the current contents of the D$() array to disk. The number of lines to be written should be in X. F$ contains the filename. S, D, V or X$ is also used.

VARIABLE DEFINITIONS

A — A general purpose variable. Used all over.

B1, B2, B3 — The slot, drive, and volume of the
           main bulletin board. Used in DOS.

AM — The active number of message on the current
     bulletin board.

BB — The current bulletin board number.

BL — The current bulletin board whose subject file
     is loaded into memory.

C — General purpose. Holds length of letter in
     mail read.

CH — Flag to indicate whether the bulletin board
     has been changed.

CN — Current caller number.

CR — Accept return flag. This allows a return to
     be accepted as input.

CS — The clock slot, 0 if none.

CT — The number of caller on a day.

D1 — The user number to send mail to.

DB — The current download board.

F — General purpose.

GF — The current general files section.

KB - The bulletin to be killed if auto-kill is
     activated.

KL - The bulletin auto-kill limit.

I, J, K - The slot, drive, and volume of the
          system disk. Used only in DOS.

L, M, N - The slot, drive, and volume of the mail
          disk. Used only in DOS.

LG - What to do with the log file.

LR - The last read bulletin number. Updated each
     time a bulletin is read.

MA - This is the status of the current users mail.
     0 means no mail, 1 is unread mail, 2 is read
     mail.

MB - This is the maximum number of bulletins.

ML - This is the maximum number of lines in the
     editor.

MN - This is the next bulletin number to be
     allocated.

NB - The new bulletin number. It is set once at
     logon from the LR variable.

NN - The new bulletin number. It is reset every
     time a different board is accessed from the
     NB variable.

NU - The number of users in the user file.

PR - The printer slot, 0 if none.

R - The code to be used with the file print rou-

tine.   It is also somewhat general purpose
and is used other places.

RQ - Tell whether there is a request file present
on disk.

S, D, V - The slot, drive, and volume to be used.
Used only in the DOS version.

T - The number of seconds that a user has been
online. You must GOSUB 8400 first though.

TO - This is the time (in seconds) that the user
logged on at.

TM - The system time limit. It is disabled when
set to 0. It is in minutes.

UL - This is the multiple upload flag.

UN - This is the current users number.

UP - This is the current upload number.

V - This is the current video width.

VD - This. is the current video width index.

VS - This is the current voting section.

WM - This is the number of the welcome message.

WW - This is the word-wrap flag.

X - General purpose.

Z - General purpose.

A$ - General purpose.

A1$ - The users first name.

A2$ - The users last name.

A3$ - The users password.

A4$ - The users telephone number.

A5$ - Where the user calls from.

A6$ - The last date the user called.

B$ - The current prefix to the bulletin names.

CM$ - The date and time the connection was made.

CT$ - The date string for the caller today count.

D1$ - Aux first name.

D2$ - Aux last name.

D3$ - Aux password.

D4$ - Aux telephone number.

D5$ - Aux calling from.

D6$ - Aux last date on.

DR$ - The slot, drive or prefix of the system disk.

E$ - The "end-of-line' string. CHR$(13).

F$ - The current filename. This is used by most disk routines.

I$ - The current input.

LU$ — The name of the last user.

MD$ — The mail divider string.

MM$ — The string that contains the match letters
      from the scan/mark routine.

O$ — The current string to output.

S$ — The "ctrl-x to exit" message.

SC$ — The screen clear character.

SN$ — The system name.

SV$ — The secondary remote password.

SYS$ — The name of the Sysop.

T$ — The current time. You must do a GOSUB 8400
      first.

X$ — The current pathname to be used. This is used
     only in ProDOS.

YR$ — The current year in the form "/xx".

ZZ$ — A junk variable that is generally used with
      the &E call. It is generally used as a disk
      input string.

D$() — The array that contains the editor data.

N%() — The array that contains the new bulletin
       numbers.

O$() — The array that contains the messages that
       go with the different security flags.

T$() – The titles of the different bulletins.

V() – The 5 different video widths.