COLOR 64 BBS

ver 7.3

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INTRODUCTION

This BBS program is written mostly in BASIC with just enough machine code to allow a 300/1200/2400 baud modem to transmit and receive at full speed. The main purpose for writing a BBS in BASIC is for ease of modification by the you the SYSOP. If you can do a little BASIC programming, then you should be able to make almost any changes to the BBS you may want. But if you ever do need or want any help in a making a modification, feel free to ask me about it.

The BBS supports both public and private messages with or without CBM graphics, uploads and downloads using Xmodem or Punter protocol (including multi-receive mode) from any number of drives, text files, on-line help files, variable baud rates (110-500,1200, 2400), self maintaining online caller log, real-time clock with date & time stamping on all messages, daily time limits, variable access levels including full remote SYSOP capabilities, voting, chat mode, all feedback stored on disk in your private mailbox, autoreply to public and private messages, automatic deletion of old unread mail, automatic purging of members who have not called for a certain number of days, hidden uploads & downloads, SYSOP terminal mode with punter upload and download capabilities (for calling other boards), local mode (for calling your own board) and a download directory that keeps all files dated and in a chronological order. The program has been written to be as crash resistant as possible, but if a caller does happen to find a way to crash the system causing a BASIC error, then a small machine code routine will automatically rerun the BBS program. This BBS program will operate with almost any combination of disk drives. Of course some disk drives work better than others. Currently, with the bugs in the 1581 disk drives, it is recommended that this drive be used only as an upload, download, text files drive. At least until Commodore releases a fix for the bugs in the drives operating system. Color 64 will support most any type of Commodore printer (or other printer with a Commodore interface), but is not required.

Also, this program supports 1541 Flash (on device number 8 only). This DOS speedup kit from Skyles Electric Works, triples the speed of a 1541 making the BBS much more responsive. If you have 1541 Flash, you need not do anything. The BBS program will automatically detect it's presence and instruct the computer to switch to slow mode when talking to any drive other than device 8.

As this program is currently written, it will work very well at 110-500 baud with a Commodore 1650 Auto-Modem, Total Tele. 64-Modem, Westridge, or any other 1650 equivalent modem as well as the Commodore 1660 Modem 300 (units with serial numbers greater than 100,000).

For 1200 baud operation (in addition to 110-500 baud), a Hayes Smartmodem 1200 (or compatible), 1670, or other 1200 baud modem connected through a suitable interface is required. If your modem does not support the Hayes AT command set, it must be an auto-answer, auto-baud-select type modem that supports DTR on pin

20, carrier detect on pin 8, and high speed indication on pin 12 and is connected through an Omnitronix interface. Actually there are many modem/interface combinations that will work. So rather than trying to list all the ones that will work, I will attempt to group the different modem types into categories.

1) First and the best type of 1200 baud modem to use is one that can be programmed to not autoanswer (ATS0=0) and when the phone rings will accept the command ATA to answer the phone. This gives us the same positive control over the modem that we would have when using a 1650 type modem (that is it only answers when we tell it to answer). A Hayes Smartmodem 1200, Volksmodem 12, the NEW Commodore 1670 modem (the version that has 4 switches on the back of it) and most other Hayes compatibles modems will operate in this mode. If you are using a Hayes Smartmodem 1200, set the internal DIP switches 3, 5, and 8 down; all others up. If you are using the NEW 1670, Switch 3 up and all other switches down.

2) The next best type of 1200 baud modem to operate your BBS on is an auto-answer modem that is controlled by DTR. When DTR is false, the modem will disconnect the phone line and not answer another call until DTR is made true. This function is largely dependent on the interface and cable you are using. Also, this modem/interface must either say "1200" on the screen or set USER bit 32 high (eg. modem's HS pin 12 connected to an Omnitronix interface) when receiving an incoming 1200 baud call.

3) The third best 1200 baud modem to operate your BBS on is the ORIGINAL Commodore 1670 modem (not to be confused with the newer 1670 modem that has 4 switches on the back side of it). This modem does not support either of the previous modes, but will connect up very easily to the BBS (no extra interface or cable needed), is reasonably priced, has a good clean 1200 baud signal and does work reasonably well. The 1670 is slightly susceptible to giving your callers a false connection. That is, if a caller is online the BBS and hangs up without properly logging off, and if a second caller is autodialing the BBS, and if this second caller gets a connection very quickly, they may be temporarily connected to the BBS (but they wont see anything on their screen). This can always be avoided by having all of your callers properly logoff.

For 2400 baud operation, a Hayes Smartmodem 2400 or good compatible is required. The C64 is just barely able to support 2400 baud and the quality of modem and phone line are very important. Please refer to the end of this manual for instructions on setting up for 2400 baud use.

This BBS uses program overlays. In order to get the most out of the Commodore 64's limited amount of memory, I have divided the BBS program into several program overlays. The "/bbs.init 7.3" program is responsible for initial variable setup, caller logon, password maintenance, and SYSOP term mode. "/bbs.msgs 7.3" is responsible for all public and private messages. "/bbs.xfer 7.3" is responsible for all uploads, downloads, and directory maintenance. "/bbs.ovl 7.3" is responsible for chat mode,

voting, help and text files. "/bbs.ov2 7.3" and "/bbs.ov3 7.3" are both empty skeleton files. You do not need the last two files, unless you want to add some user written code and store it in there. All of these programs are capable of changing baud rate, graphics mode and logoff. These overlay files are about 100 blocks each and would require close to 75 seconds to load on an unmodified 1541. So it is required that you use an Epyx Fastload cartridge, Access Mach 5 cartridge, 1541 Flash, etc. on a 1541 or 1571 in 1541 mode; IEEE Flash on an IEEE Drive; or Chip Level Designs Burst Mode Kernal Rom replacement on a 1571 in 1571 mode, ICT Hard drive (BOS 7.1 or later), or 1581 disk drive; Xetec hard drive with its own Host Adapter (make sure you set the NMI trap on - 01 - in the LtKernal setup); or some other similar high speed disk load setup. With any of these examples, overlays will load in less than 15 seconds. Loads any slower than this will tend to raise complaints from your callers.

Another solution to the shortage of memory in the Commodore 64 is to add a C1700, C1764 or C1750 Ram Expansion unit. These units add 128K, 256K and 512K (respectively) of external RAM to your 64 and will completely eliminate the need for program loading delays in the BBS. To use the C1700, C1764 or C1750, you just load "start 1700" instead of "bbs" or "restart 1700" instead of "reboot". To speed up the initial transfer of the programs into the ram module, the 1700 loader routine will look for a fastloader program called "turbodisk64 3.0". If it is not on the disk, the loader will still work fine, just slower. This fastload program was in the August 1986 issue of Computes Gazette! Compute has a very strict policy stating that any programs published in their magazine are not in the public domain. So I am not able to include a copy of "turbodisk64 3.0" on your BBS PROGRAMS disk. But if you can show me that you own that issue of their magazine, I can give you a copy of it. Anyway, if you have "turbodisk64 3.0" and if the drive you are loading your programs from supports it, just add it to your BBS PROGRAMS disk.

As you may have noticed, each of the program overlay filenames began with a /. To type this character, you must press and hold either shift key, then press the @ key. This will produce a character that looks like a check mark. I use this special character to hide all of the system files from being seen or downloaded by your callers.

Anyway, after you have gathered together all your hardware and assembled your system, it is time to run the Color 64 BBS SETUP program. You will need a blank formatted disk in each of the drives you plan to use on the system (with the exception of drives that are upload/download only).

The first thing you will need to do when setting up your BBS is
to define a few SYSOP selectable parameters. To do this, put the
"BBS PROGRAMS" disk (the one you received from me) into drive 8
and load "setup",8,1. You may want to run SETUP the first time
with Fastload disabled. On some systems, you will get a
"NO CHANNEL" error when creating REL files while Fastload is
enabled. If at a later date you rerun SETUP to just change a
parameter, it is ok to leave Fastload enabled. It seems to be
safe to read and write REL records with Fastload enabled, just
don't create a new file.

After loading is complete, insert an already formatted blank disk
into drive 8. This diskette will be used as your "BBS PARMS" disk
and must always be in drive 8. Make sure you label it
appropriately. You will probably want to start with a brand new
high quality diskette since it will get a lot of use once your
bulletin board goes on-line (I personally like Maxell brand
diskettes). After you press RETURN, you will see the first
screen of SETUP.

Built into this SETUP program is a simple print screen utility.
Use CTRL/f1 to activate it. This only works in SETUP. You may
want to print each screen after filling them in for future
reference.

The first question is for the maximum number of lines to limit
each message. The default is 100 with a recommended range of 20
to 100. The smaller messages will take up less disk space,
leaving more room for more messages or other files, while longer
messages can save a lot of "continued" messages.

The next question is for the maximum number of columns per line.
It defaults to 38. That will work best for callers using a C64
with its 40 column screen. This will keep Commodore's screen
editor from throwing in that annoying extra line when the cursor
reaches the 40th column. Another thing to keep in mind is that
the program was written to handle a maximum of 4000 characters
per message. The product of the previous value and this value
should be less than 4000. If you set up your line lengths and
number of lines too large, the BBS will automatically lower the
maximum number of lines per message to keep the system from
getting an "out of memory" error. It is possible to set the line
lengths to 78 if you want to cater to 80 column machines.

The next question is for the maximum number of public messages
the system will keep online at any one time. The program will
automatically remove the oldest public message when a new message
is posted and the total number of public messages online exceeds
this variable. The default is 50 with a recommended range of 25
to 232. The Commodore 1541 and 1571 disk drives will allow up to
144 files to be stored on one diskette, while an SFD 1001 allows
224 files and the 9060 and 9090 hard drives can have an unlimited
number of files in the directory. If you do setup for more than
135 messages, you will notice that maximum number of lines per
message will automatically be reduced. Each message in the

system requires several pointers in memory. The more pointers
allocated, the less memory that will be left for entering a
message. 232 is the maximum number of public messages that Color
64 can handle at any one time.

The next question is for the maximum number of passwords you want
to set the system up for. It defaults to 100 with a recommended
range of 25 to 999. Actually 999 is not the maximum number of
passwords, the BBS will support as many passwords as your disk
drive will handle (up to 32767). If a new caller applies for a
password causing this value to be exceeded, then the BBS will
send a message ("/membership full") telling the caller that the
membership is temporarily full and to call back at a later date.
You will want to make sure you give this value some real
consideration as it will determine the size of the password file
to initially create (approximately 120 blocks for 250 members).
You can not make this file larger by rerunning SETUP and entering
a larger value. If you do later change this value in SETUP to a
larger value, the password file would grow one record at a time,
scattering itself all over the diskette and increasing the time
it takes to search through the file. If you are going to have
enough disk space, then I recommend you set up the password file
for 250 to 500 members (depending on the size of the city you are
in). This will consume about 120 to 240 blocks of disk space,
but in the long run the system will run faster. If you did
create this file too small and later decide to increase its size
and if you do find that the password file does get scattered, you
could use "bak pswd 7.00" to make a backup of your password file.
Then on a new blank disk, rerun setup to make a new larger
password file and use "restor pswd 7.00" to restore all your
passwords into the new password file. Then copy all other files
(using Super Xfer) from the old disk onto the new one. This will
make all files contiguous again, greatly speeding up disk access
time. On SETUP screen 3 you will be deciding which drive to put
your password file on.

The next question is for the minimum number of blocks free
allowed on the "PUBLIC MESSAGES" disk before the messages start
cycling. You do not want to let this disk completely fill up,
especially if it will also be storing private messages on it. A
value of 50 is defaulted with a range of 25 to 75 recommended.
If blocks free on this disk ever fall below this variable, every
time any new message is posted, the oldest public message will be
deleted even if the maximum number of messages is not exceeded.

The next question is for the minimum number of blocks free to
allow uploads. A value of 75 is defaulted with a range of 10 to
75 recommended. If you are going to be storing private messages
on the same disk, then you will not want to set this value less
than 25. The BBS will not allow private messages to be sent if
the directory falls below 25 blocks free. You will never want to
set the value below 10. This is to allow space for the
"/directory" file to be processed after an upload. Note that the
free space message given at the end of the directory list and
before an upload will automatically be decremented by this value.

The next question asks for the maximum number of downloads you

will allow per call. If you enter "99", then for all practical purposes there will not be a limit to the number of downloads per call. When a caller reaches their maximum downloads per call, they must logoff and logon again before they can download more. This applies to all callers with an access level of 1 through 5.

The next 3 lines on this screen are where you will set up your download credit system. The first of these 3 lines is for the number of blocks of download credit you will give per block uploaded. The next line is how many free credit blocks you will give each new caller. After these free credits are used up, your callers will have to upload to earn more download credits. The third line is the access level at which your callers become exempt from the credit system. If you do not plan to use this credit system, just set this variable to 1 (making all your callers exempt).

While we are talking about the credit system, I want to go over a few more things. If one of your callers uploads a program that you do not want to count as a credit, you will need to use Password Maintenance to change their number of blocks uploaded variable to less than what is currently in that field (depending on the number of blocks uploaded). Lets say for example they already had 100 blocks uploaded and they uploaded another 50 that you do not want them to get credit for. Go into Password Maintenance and change the blocks uploaded from 150 to 100. If they had already downloaded blocks based on that upload credit, then when they call next time, they will have to upload that many more blocks before they can download again. This is important, as some callers will try to take advantage of the system by uploading the same files over and over (with different names) or by padding normal files to get more credit for the upload (often you can see the padding in your transfer window during an upload/download).

On the update disk is a program called "clr credits" that can be used to reset all or your caller's upload and download counters, or optionally just one caller's counters. This would be useful if you decide to start the credit system over after your BBS has been in operation for a while.

The way this BBS program tracks credits is by a mathematical formula based on the caller's number of blocks uploaded and downloaded. The formula used to calculate download credits is:

(free credits) + ((uploads)x(credits per upload)) - downloads

This formula can calculate a negative credit if you implement this credit system on an operational BBS without first clearing the upload and download counters, if you remove any upload credits from a caller who had already downloaded blocks based on that upload's credit, or if at a later date you change the number of credits per upload or number of free credits variables. If the number is less than or equal to 0, then that caller will not be able to download until they upload enough blocks to make their credit status positive again.

The next question on this setup screen is asking for the maximum
number of days that you want the BBS to hold private mail before
deleting it. This variable is actually an approximation with a
maximum error rate of 3 days per month (always in your caller's
favor). If some of your callers do not call for a long period of
time, there could become a significant amount of mail online that
really does not need to be there. Most likely if a caller does
not read their mail for more than 30 days, by the time they do
read it, it is no longer important. When mail is deleted, an
entry is made in the caller log at midnight indicating the
member's number who had their mail deleted. This could be useful
in determining if this value is set too low and deleting too much
mail. There is a safety check built in to prevent everyone's
mail from being deleted if you should accidentally type in the
wrong year or month when loading the BBS. When the system
calculates how many days a piece of mail has been online, if that
number exceeds the purge mail variable by 7 days, that mail will
not be deleted. You should remember this if in the future you
decide to change this purge mail variable. Do not change it by
more than 4 days at a time (allowing for the 3 day approximation
error) and the system will never miss any mail that needs to be
purged.

The next question is for the access level you want to give to
your new callers. There are nine access levels allowed. Each
level will have a certain amount of access and certain amount of
time as defined by you the SYSOP. I like to start all my new
callers at access level 1 and increase their access only after
validation. But you may feel differently, so this is where you
would set the new caller access variable.

Now would be a good time to for me to describe the various access
levels as they are defaulted. You will be able to redefine much
of this by changing the information on appropriate SETUP screens.
But if you don't, this is what the different access levels will
look like.

Level 1 callers will only have the ability to read system
messages and help files. They will not be able to hold any mail
in their mailbox, read public messages, do any downloads or
uploads or read any text files. This is a good place to start
all new callers until you have verified the information left in
their application.

Level 2 callers have all the abilities of level 1 plus they can
read all the public messages and text files. This access level
allows your new callers to look around and decide if they want to
join the BBS. And since they cannot post any messages or
upload/download, you do not have to worry about "hackers" getting
online and posting or uploading offensive material. This also is
not a bad place to start all your new callers or to give unpaid
callers on a pay system.

Level 3 callers have all the access of level 2, plus the ability
to post public messages and do uploads and downloads. They still
do not have the ability to send private messages. This may be a
good level to give to your callers if you are trying to get

voluntary contributions. You could also set the credit system exemption level to 4, so that level 3 callers have something to gain by sending in a financial contribution.

Level 4 and 5 callers have full use of the system. That is they have all the abilities of a level 3 plus the option to send and hold private mail. Since both of these levels have the same abilities, you will be able to setup the different message categories, download directories, time limits, etc., and maybe give some of your most contributing callers more access.

Level 6 callers have the same access as level 4 and 5 callers, but they are exempt from the "per call" time limit, maximum downloads per call and the time between calls limitation. You may want to give this access level to all your long distance callers or personal friends, so they will not be disconnected before their daily time limit has been exceeded. And if your "per call" time limit is the same as the daily time limit, then just use level 6 as one more variation of level 4 and 5.

Level 7 has all the access of level 6, plus the ability to scratch any public message, scratch any downloads, edit download descriptions, and release uploads for public access. This access is for your regular SYSOPs. They can be of help in maintaining the download directories and by scratching offensive or no longer needed public messages.

Level 8 is a high level SYSOP. In addition to having all the access of level 7, they can set the clock and date, change another caller's name, access level (but they cannot make a caller a SYSOP or change a SYSOPs level) and read the caller log. I find this level gives enough access to allow someone to run the BBS for a weekend or so while you may be away. YOU DO NEED TO BE CAREFUL WHO YOU GIVE THIS ACCESS LEVEL. Since a level 8 will be able to see anyone else's passwords, you owe it to your callers to make sure the people you select for level 8 are trustworthy!

Level 9 has the same access as level 8 plus the ability to do full password maintenance, and full DOS capabilities. This access level should only be given to yourself and possibly one other user if you are going to be gone for a long while. There really is not much you cannot do with this access level, so you should be very cautious who you give level 9 access. I personally give level 9 access to just one of my closest friends only for the period of time when I am out of town on vacation. The rest of the time, he is a level 8.

The next question on this setup screen is asking for the access level you want the BBS to assign to a caller when their membership has expired. In each caller's password record there is a field that can contain a date. You would use the Password Maintenance or the (V)alidate option to enter/edit this date. At midnight, a compare of this date to the current date will be made and if there is a match, that callers access level will automatically be changed to the level you define here. This allows us to give a caller a certain number of days on the system and not have to try to remember to lower that callers access

level on any certain day. I use this field when giving a caller
a 30 day trial membership or when a caller pays their annual
fees. And since the system automatically lowers your callers
access level, there may be less hard feelings towards you
afterwards. Optionally, this field can hold a short 8 character
note about the caller that will be printed on the Password
Maintenance report. I use it to note callers that I have given
free access. I enter SYSOP for callers who are SYSOPs of other
systems, or GUEST for members on my system as a guest, or REMOTE
for my remote SYSOPs. If this field does contain a date (in the
proper MM/DD/YY format), the caller will be reminded each time
they log on that their membership expires on MM/DD/YY.

The next question asks if you want to save the caller log when
the system is shut down. If you have the disk space available,
then I recommend you answer "Y" to this question. If you do
answer "Y", the caller log will be saved at shutdown and reloaded
when the system is brought back up. This will give you and your
level 8 SYSOPs the ability to see all the callers that have
called during the last few days. The caller log is stored in an
8k area of memory under the BASIC rom. It is totally self
maintaining, that is, as information is added, the oldest
information in the log is removed. Each caller log file on disk
will take 33 blocks of disk space. Every time one caller log is
saved, a backup is made. This can be handy if for some reason
the first file is lost because of a disk error or power outage.
In addition to 66 blocks for /caller log and /caller log.bak,
each night at midnight a dated copy of the caller log is made.
These dated logs can be saved for archive purposes, should you
ever want to look through them. Before the system makes a dated
log for archive purposes, it checks to make sure the blocks free
will not drop below the minimum blocks to allow uploads, so you
will want to put your caller logs on a drive with plenty of space
and purge the archives often.

The next question asks if you want the BBS to rerun on errors.
If a caller does find a way to crash the BBS causing a BASIC
error or if you have made a change to the BASIC coding and
accidentally left an error in the program, the system will
automatically rerun itself. Normally you DO want this option
enabled. We all sleep better at night, knowing that the BBS will
still be running when we get up in the morning. The only time
you may want to disable this option is if you are making
modifications to the BBS programs and are still testing the
changes. Note that when rerun is enabled, the STOP key will be
disabled.

The next question on this screen asks if you want the screen to
blank when a caller is reading or writing a private message.
There are some that feel that a private message should be totally
private, not even read by the SYSOP. While others feel the SYSOP
is totally responsible for everything on the BBS, even the
private messages. This option allows you to setup your system
the way you feel is best. If you do answer "Y" to this question,
the screen will be blanked when a caller is reading their mail or
sending mail to anyone else on the system. The screen will NOT
be blanked when a caller is sending feedback or private mail to

commands are in this one string. Second, if your modem will accept it, it is best to follow the attention with a reset (z). This reset is required for many types of modems to keep them from getting locked up. But on the Hayes Smartmodem 1200 and both Commodore 1670 modems, a reset will cause the remainder of the init command to be cleared. So don't use the "z" reset with these modems. In summary, use "ate1x1s0=0s10=30f1q0v1m0" for the Hayes Smartmodem 1200 and most compatibles. If you are using a Volksmodem 12 or some other Hayes compatible that does not clear the command buffer when it executes an "atz", your modem may work better if you add a "z" just after the "at" and just before the "e1". Change the modem init command to "ate1x1s0=1s10=30f1q0v1m0" for the new (4 switch) version 1670 or "ate1x1s0=2f1q0v1m0" for the original 1670 (the version with only 3 switches). If you have the 17XX ram expansion module with an old 1670, it is safe to change the "s0=2" above to "s0=1". If you are using a Hayes SM300, just take the "x1" out of the init string listed above for the Hayes SM1200. If your modem does not support any of the commands in this init string (such as the s10=30), just take that part of the command out. And if you are having a problem finding which part of the init string is causing you a problem, you can load up a terminal program and try typing in the command. If you get an "ok", then you are all set. If it says "error", you need to find which part of the command is not supported. Also, if after loading the BBS, the waiting for caller screen does not come up (just prints last caller =), then there is something in this modem init string that is not set correctly. If you have any problems getting your modem setup right, let me know. I have had pretty good success helping others get their modems setup correctly.

Now you will be asked "Is this correct?" If you need to change any of the previous answers, answer "N" and you will be taken through all the questions again. If you are sure everything is correct, just enter a "Y" and press RETURN. Then you will be taken to the next screen of the SETUP program.

This screen will be used to assign which groups of files will be
stored on which disk drives. It is here that you will be able to
balance the load between your drives to make the most efficient
use of your hardware. If at first, you are not sure where to put
which files, don't worry to much. Once the system starts running
and if you see one drive has too many files, you can rerun SETUP,
change the appropriate variables, then move the effected files.

The first question on this screen is for the device and drive
number of the disk drive that will be storing the BBS password
file. You will see "8 , 0 , i0". The first number is the device
number of the desired drive and the second number is the drive
number (0 or 1 for dual drives or LU0 or LU1 for the LtKernal
hard disk drive). You can "point" this to any drive you want,
but if you point it to a drive other than a 1541, make sure the
drive is capable of handling relative files (the SFD 1001 does a
fine job with relative files). The third entry (the i0) is the
command to be sent to the command channel whenever this group of
files are requested. "i0" is what you should enter if you are
using 1541s, 1581s, SFD 1001s, 2031s, 9060s, 9090s, etc. If you
are accessing drive one of a dual drive (like the 4040s, 8050s,
8250s, etc), you would enter "i1". But if you are using a 1571,
you have 3 choices. If you want to use the 1571 in 1541 mode,
single sided, 664 blocks per disk, then you can just enter "i0"
just like a 1541. But since the 1571 is a double sided drive, it
is capable of storing 1328 blocks in one directory in 1571 mode,
or 664 blocks in separate directories on each side of the disk.
I prefer the latter arrangement, since you will have twice the
space in the directory (144 files on each side) and I have found
that my 1571s run more reliably in this mode. Anyway, if you
want to have one directory of 144 files/1328 blocks free, enter
"u0>m1". If you want to have two directories of 144 files/664
blocks each, enter "u0>h0" for the normal side, or "u0>h1" for
second side. Also, when using a 1571 in one of these to modes,
make sure you have a diskette properly formatted. If you don't
already have a diskette formatted, you can use the DOS wedge in
FASTLOAD, the MSG EDITOR, or the BBS and enter in the same drive
command followed by the command to format the disk. Example:

```
          1571 mode  -  >u0>m1
                        >n0:diskname,id

     1541 mode side 0  -  >u0>h0
                        >n0:diskname,id

     1541 mode side 1  -  >u0>h1
                        >n0:diskname,id
```

When entering your information on this screen, DO NOT CURSOR LEFT
OR RIGHT OR UP OR DOWN INTO ANOTHER FIELD. When you press the
RETURN key, the cursor will automatically move from the device
number to the drive number, then to the drive command before
going onto the next line. This may seem confusing at first, but

it does allow more information to be entered on one screen. If
you make a mistake and are still are on the same field, cursor
left (instead of delete) and type over the error. Then press
RETURN to go onto the next field. If you realize you had made a
mistake in a previous field, do not use the delete key or cursor
key to go back. Just answer the rest of the questions and at the
end of this screen you will be given the opportunity to correct
your mistakes. If for some reason, you get totally messed up,
just press RUN/STOP RESTORE and type run to start over.

The rest of the drive assignments are just like the password
file. They are for the System Messages (welcome messages, logoff
message, menus, information file, membership list, membership
full message, vote messages, or any message that does not fall
into one of the other categories), Help Files, Public Messages,
Private Messages, Text Files, Caller Log and Program Files. As
you can see, this allows you to move your files around anyway you
need to best balance the load between your available drives. The
BBS will always have to initially be loaded from device 8, but if
it is more convenient, you can have the overlays loaded from a
different drive number. This may be beneficial if you have a
hard disk drive setup as device number 9, and want to load your
overlays from the hard drive for the higher speed.

IMPORTANT NOTE: If you are using the Epyx Fastload cartridge you
MUST always use ui as the drive command for program files or you
will experience intermittent system lockups.

Now is a good time to make sure the drive that you assigned to
the password file is online and has a formatted disk in it. This
disk should be blank. The SETUP program will create a relative
file large enough to hold the number of callers you designated.
The system will run faster and more reliable if this file is
contiguous.

The next question on this screen is asking for the maximum number
of files that you want to be on the public messages drive. If
you are using a 1541, I suggest 135. If you are using an SFD
1001, I suggest 210. The way this works is that after a caller
logs off, the system will go to the public messages drive and
count the total number of files on that drive. This routine is
real handy if you are storing both public and private messages on
the same drive, or if you are allowing uploads to go to the
public messages drive. Since there is no way of predicting just
how many uploads or private messages will be on this disk, we can
program the system to scan that directory and if the directory is
getting close to filling up, scratch some public messages. This
allows us to run our small 1541s near capacity (making the most
use of the drive all the time). A 1541 will handle 144 files.
So a setting of 135 leaves space for 9 new messages/uploads to be
stored on this disk during any one call. One more thing, if you
are only storing public messages on the drive (nothing else) or
you are using a 9060, 9090, or any other hard disk drive that has
an unlimited directory, there is no need for the system to spend
all that time counting files. If this is the case, entering a 0
here will tell the system to not count files after each logoff.

Again you will be asked "Is this correct?" If you need to change
any of the previous answers, answer "N" and you will be taken
through all the questions again. If you are sure everything is
correct, just enter a "Y" and press return. Then you will be
taken to screen three of the SETUP parameters routine.

In this section of setup, you will go through a series of screens defining each of your upload and download directories. You are able to setup up to 26 different directories on any number of drives. Each directory will be assigned a description, download status, upload status, access level, device number, drive number and a drive command.

You will want to give each drive a unique name since your callers will reference this name when selecting drives. The first drive that has a "Y" in the download status field will be the system's default download drive and the first drive with a "Y" in the upload status field will be the system's default upload drive. This can be the same drive (simply by entering "Y" in both download and upload status fields) or totally separate drives. You need to make sure the access level assigned to these drives is for the lowest level callers. You would not want the system to default to one of your restricted download directories! One last thing to always remember is that all level 7, 8 and 9 SYSOPs will be able to switch to any drive defined here, whether or not it is an upload or download drive. This allows your remotes to move files off of an upload only drive and upload files onto a download only drive.

For example, say we have 4 drives on our BBS. Drive 8 has the private messages and the overlay programs on it. Drive 9 has public messages and help files. Drive 10 has all the new uploads and we want to allow callers to download from here too. Drive 11 has the text files and the main downloads. You want drive 11 to be the default download drive and drive 10 to be the default upload drive as well as an optional alternate download drive (for downloading newly uploaded programs). Here is how you would fill in the SETUP screens. Enter "3" for the number of upload/download directories to be defined. For Directory A (our default download drive), enter "All Downloads" as the description. Do not enter any commas, color codes, rvs codes, or spaces for centering. Enter "y" to allow downloads and "n" to allow uploads. Enter 1 for the access level (always want the default download directory to have an access level of 1). Then enter "11" for device number. Now enter "0" for the drive number and "i0" for drive command. On the next screen, do the same thing for drive 10 but name this one "New Uploads". Answer "y" to both downloads and uploads. On the next screen, enter "Help Files (SYSOP ONLY)" for the description. Answer "n" to both downloads and uploads and set the access level to 7. This directory will only be seen by your SYSOPs (level 7 or higher) when they enter "#" to change drives. Answering "N" to both uploads and downloads still allows level 7 and above SYSOPs to be able to switch to that drive and upload/download/scratch files (help files in our example). There was no need to access drive 8, even as a SYSOP, so we did not enter it on this section.

After entering the third screen (remember we said we were defining 3 download directories), you will be prompted for

"Directory to Edit (A-C)"? If you need to change any information previously entered, press the appropriate letter. Otherwise, press return to go on to the next screen.

This next screen only asks 3 questions. The first one is "Upload auto-release level (1-10)?" When a caller uploads a file to the system, do you want that file to automatically be released as a public download, or would you prefer it to be held for a SYSOP to review before it is released? With Color 64 BBS, you can have it so that lower level caller's uploads are held for "sysop release", while higher level caller's uploads will "auto-release". Make sure you never set this command higher than the [Y]Release A Download command or your SYSOPs will not be able to release any uploads. You may want to setup your system so that just your SYSOP's uploads will auto-release. If so, enter 7 here. Or you may want all uploads to auto-release. If so, enter a 1 here.

The next question asks if you want to use the "Upload descriptions" feature of Color 64 BBS. Most of you will want to answer "y" to this question. The only time you may want to say "n" is if you do not have enough disk space and all the extra file descriptions will fill up the directory or disk. The popular SFD 1001 disk drive has a limitation of only 224 files in it's directory. This sounds like a lot until you realize that each download requires a second file for the description. So if you are using an SFD 1001 and you want to use upload descriptions, you will be limited to 111 files in the downloads (allowing for the /directory and /dir.tmp files). This gets even worse if you are also putting system files, messages, help files, and/or text files on the same SFD. Anyway, that is why I have it setup so you can run either way. Also, if you answer "n" to download descriptions, it is possible for you or your SYSOPs to manually enter a download description on any specific file. Just use the [E]dit Dnld Desc command to create the description file. Also, all download descriptions will be stored on the disk as "@dnldname". Example, the description file for "ccgms term 4.0+" is "@ccgms term 4.0+". Before starting an upload, a check is always made to make sure a download under that name and a description under that name does not exist. If you ever see a "file exists" error and cannot figure out why, remember about the download descriptions (even if you are not using them).

The last question on this screen asks if you will have multiple directories on one disk drive. This option is mainly for large disk drives (like a 5, 10 or 20 meg hard disk drives) and will allow you to divide that large area of disk space up into more manageable, smaller areas. You could actually use this option on any disk drive, but it may not be worth the effort unless you have a lot of files on one disk drive. If you do answer Y to this question, every file uploaded to the system will automatically have a letter (A-Z) added to the beginning of it's filename. The callers do not see this letter, it is just used by the BBS to group the files into different directories. If you manually copy a file onto your download disk, you will need to rename the file so the proper capital letter is the first character the filename. There is a utility on your BBS PROGRAMS

disk to help you rename your current downloads called
"dir rename 7.30". When you use it, the delete key deletes the
first character of the filename, any other key pressed becomes
the first character of the filename. Remember, if you answer N
to this multiple directory question, you will not need to rename
any files. They will be displayed to your callers exactly as
they are on the disk, with all the files on one drive in the same
directory.

Now you will be asked "Is this correct?" If you need to change
any of the previous answers, answer "N" and you will be taken
through all the questions again. If you are sure everything is
correct, just enter a "Y" and press return. Then you will be
taken to the next screen of the SETUP program. If after
answering "Y", the program still jumps back to the beginning of
the Uploads/Downloads SETUP screens instead of going on to the
next screen, make sure you have assigned at least one download
directory and at least one upload directory. Even if you don't
want to allow uploads or downloads, you must assign at least one
of each (just set the access level to 7 if you want).

This screen will be used to set the time limits for the different
access levels. First you will be asked to set the maximum time
allowed "per call" for levels 1-5 during AM hours and again
during PM hours. This is different than the maximum allowed per
day in that a caller may get 60 minutes per day, but only be
allowed 30 minutes per call during PM hours, forcing them to not
tie up the BBS for a continuous amount of time during what is
normally the busier hours. This variable applies to all callers
with access levels 1 through 5. Access levels 6 and above are
exempt. I usually give my long distance callers and close
friends level 6, so they will not be disconnected prematurely.
Any value from 0 to 900 is ok. Note that if you do not want a
"per call" time limit, then set either/both of these values to
900.

The next question is asking for the time required to pass before
a level 1-5 caller can get back onto the system. You would use
this value to prevent one caller from staying online for the
maximum "per call" time limit, then immediately calling back for
another session. Any value from 0 to 30 is ok. If you do not
care to use this "between calls" feature, just put a 0 in this
location. Again, access level 6 callers and above are exempt
from this variable.

The remaining questions on this screen are for the daily time
limits for access levels 1 through 9. Any value from 1 to 900 is
ok. Set them any way you see fit. The system will not
disconnect a caller if they are in the middle of a download or
entering a message and their time expires. But the system will
"borrow" the extra time used from the next day. So if a caller
has a 20 minute per day time limit and spends 60 minutes typing
you feedback, the system will enter -40 minutes in that callers
membership record. Then every night at midnight, this time will
be incremented by 20 minutes. So this caller would not be
allowed back onto the system until their daily time limit goes
positive again (3 days in this example).

At the end of this screen, once again you will be asked
"Is this correct?" If you need to change any of the previous
answers, answer "N" and you will be taken through all the
questions again. If you are sure everything is correct, just
enter a "Y" and press return.

The next screen is where you will assign the number of days that must pass before the BBS's purge routine will automatically delete a member that has not called in a while. When the BBS deletes a member, they are TOTALLY deleted. There is no way to bring them back unless you have a "/backup password" file you can use to restore their record. An example might be to set the system to automatically delete any level 1 not calling in 15 days, level 2 not calling in 31 days, or level 3 not calling in 62 days. And set all other levels to 999 days so the system will not automatically delete them (could use the membership expires feature to lower their access level to a 2 after a set number of days or when their fees run out).

The way this routine works is every night at midnight, each password record is evaluated and if that caller has not called in the defined number of days, they are deleted. An entry is made into the caller log (their record number followed by an asterisk to differentiate from a membership expired status). As a safety check, when the system calculates the number of days since the last call and compares it to the current date, if the calculation exceeds the purge variable by more than 7 days, the system will not delete that caller. Without this safety check, if you accidentally entered the wrong year while loading the BBS and the system processed its "end of day" routines, ALL of your members would have been deleted! In addition, the system does some approximations when making calculations into a previous month. Any error (always in your caller's favor) can possibly be as much as 3 days. For this reason, it is recommended that if in the future you do change any of the purge variables, only change them by 4 days per "end of day" processing runs so the system will not skip over any callers that should be purged. I strongly urge you use this feature, it will make the long term maintenance of the BBS a lot easier.

At the end of this screen, once again you will be asked "Is this correct?" If you need to change any of the previous answers, answer "N" and you will be taken through all the questions again. If you are sure everything is correct, just enter a "Y" and press return.

This screen will be used to enter the message base categories.
You can have anywhere from 2 to 18 categories. When a message is
posted, the caller will be asked to select from one of these
categories for their message. And when a caller reads the
messages, they will be given the option to read just the messages
in one category or the messages in all of the categories that
they have access to. Do not use any commas or colons in your
message category titles. They will be read in from disk using a
standard input statement, both the comma and colon will cause
everything after itself to be ignored. Each category will have
an access level assigned to it. Any callers with a level lower
than the categories level will not see any messages in that
category. It is recommended that you assign your category levels
in order with the lowest levels at the top of the screen and the
highest at the bottom. That way when a lower level caller sees
the list of categories, they will not see letters missing from
the list. The less they know they are missing, the less they are
going to complain.

Again you will be asked "Is this correct?" If you need to change
one of the previous categories, answer "N" and you will be taken
through all the questions again. If you are sure everything is
correct, just enter a "Y" and press return.

The next 2 screens are where you can really start to customize
your system. Every command that your callers type from the main
command prompt and the level required to execute that command are
SYSOP defined. Once again, do not use the cursor keys to move
from field to field, use RETURN. If you do not like "O" for
logoff, you can change it to "G". But remember to assign
something different for the graphics command. And if you like
level 1 callers to be able to read all messages, you will be able
to adjust that here too. The first screen covers half of the
commands and the second screen covers the other half of the
commands. The commands marked "spare 1" through "spare 9" are
for future expansion. For now, setting the access level for
these commands to 10 will completely eliminate them from the
system. Currently, if anyone presses 1-9 (and has a high enough
access level), the BBS will load in the appropriate module and
then just return to the command prompt. I left them like this so
you will be able to easily add your own modules to Color 64 BBS
using these commands. If you are not a programmer, don't
despair. We already have dozens of modules written that you can
just merge into your system. Many of them are available from my
BBS as well as instructions for how to add them to your system
(in our private text files area). Anyway, the spare commands are
something you can make use of later, after you are more familiar
with Color 64 BBS.

There are a couple of variables that are not redefinable. One is
that level 6 is still and always will be exempt from maximum
downloads per call, minimum time between calls and the per call
time limit. I like to reserve this level for my full access
members who are long distance, since I hate to see them have to
hang up and call back when they are already online. Another
fixed variable is for SYSOPs. Level 7 and above are SYSOP
levels. When reading messages, they will be able to scratch and
edit other persons messages. And level 8 SYSOPs will always have
the option to validate a member when sending them a private
message (they have access to everyone else's passwords on the
system). You will be able to move around some of the SYSOP
commands between level 7, 8, and 9, but these levels must be used
for your SYSOPs only.

This leaves you levels 1 through 5 to redefine any way you want.
Also, remember to modify your menus to match your new custom
designed command characters and access levels.

The next screen is where you will define the 8 colors that Color
64 BBS will use. Through out the program, whenever we want text
in a different color, the BBS will select the next color from
this sequence. You will see 9 reverse bars of numbers on the
screen. To change the color for bar 1, just type 1 then type the
control code for the desired color. For example to make bar 1
medium blue, you would type 1 followed by Commodore/7. The bar
will change colors right away. This gives you an idea of what
these colors will look like next to each other. Keep adjusting
the colors until you have this screen looking the way you like,
then just press RETURN.

The last screen in SETUP now tells you to make sure your modem is connected, turned on and ready to receive a call, but to make sure that no one is actually connected to it. It is recommended that you actually unplug the phone line from the modem to make absolutely sure no one is connected or that a dial tone will not generate a false carrier detect status. The BBS will now learn the carrier status of your modem. If at anytime in the future you change modem types or switches insider your modem, it is important that you do rerun SETUP with the modem connected so that the new carrier detect can be determined.

When you are ready, press RETURN.

Now the SETUP program will go to work. When finished, there
should be 2 new files on your system. The first file is
"/bbs.parms" and must always be on device 8, drive 0. This is
the file that stores the drive assignments, and until it is read
in, the BBS program has no way of knowing where to find any of
your other files. The second file just created is the
"/password file" and it will be created on the disk assigned by
the DRIVE ASSIGNMENTS screen. This password file is where all
your caller's names, passwords, access levels, time remaining
today, last message read, etc. are stored. Right now, there is
only one password in the password file. It is membership number
2, name SYSOP, and password SYSOP. The BBS has created this
password for you. You, as SYSOP must always have membership
number 2. All feedback will be put into mailbox number #2 and
all feedback replies will come from membership number 2. You
will want to use the Password Maintenance routine (f6 from the
call waiting screen or "<" while online) to change your name and
password (see description below) before putting the BBS online
for the general public to call.

Notice that all these filenames have a check mark in front of
their name. This same check mark (shifted @) will precede all
BBS filenames. This special code prevents anyone from being able
to download any of these files and possibly reading your password
file, feedback or someone else's mail.

There are 6 files that need to be copied onto the disk assigned
to store program files in the DRIVE ASSIGNMENTS screen. So
answer "N" to the "Load BBS (y/n)?" question. Then using Super
Xfer (or any suitable file copy program), copy "/bbs.punt 7.3",
"/bbs.xmo 7.3", "/bbs.init 7.3", "/bbs.msgs 7.3", "/bbs.xfer 7.3"
and "/bbs.ovl 7.3" from the BBS PROGRAMS disk I sent you onto the
disk you designated for program files. To help minimize the
delays when an overlay is called, these files need to be near the
beginning of the directory and contiguous (not scattered all over
the disk). If you are going to have enough disk space and you
are storing your program overlay files on your BBS PARMS disk as
recommended, you may want to consider copying all of the other
program files from the BBS PROGRAMS disk onto your BBS PARMS disk
just after the 6 overlay files. This would eliminate the need to
swap disks when rebooting the system or loading one of the BBS
utilities. You would effectively always have both the BBS PARMS
and the BBS PROGRAMS disks online all the time and would just
press RETURN when asked to insert one or the other. Another idea
would be to put "bbs" and "/bbs.ml 7.3" (the only other programs
required to load and run the BBS) onto the "BBS PARMS" disk,
allowing you to reload the system without swapping disks by just
loading "bbs",8,1 (%bbs with Fastload). Also, "/bbs.ov2 7.3" and
"/bbs.ov3 7.3" are not currently needed on your program disk as
an overlay. Right now, these files only contain a skeleton of
coding and will be used in the future to store
"user written modules". Once you start adding you own routines
to Color 64 BBS, you may soon find you are running out of space
and will want to put some of you coding in these extra overlay

files. Anyway, for now you don't need to worry about these 2
files.

If at any time you decide that you need to change any of the
above parameters, just load the "SETUP" program again and then
put in your "BBS PARMS" disk. The existing "./bbs.parms" file
will be read into memory and you will be able to step through
SETUP one screen at a time with all previous data entered already
on the screen. Keep hitting return until you get to the
parameter you want changed. After you have completed all the
screens, a new "./bbs.parms" file will be written to disk. Note
that the "./password file" will not be affected if it already
exists, even if the maximum number of passwords parameter has
been changed. But if the maximum number of members parameter was
increased, then this file will be allowed to grow as new callers
call and additional file space is needed.

Now that you have defined all your parameters and copied all of
the overlay files onto the proper disk, it is time to create your
system messages. This is where you get to let your creative
ideas flow. I have included a full set of example messages that
you can use as is or edit to suit your own tastes. Again, use
Super Xfer (or any other file copier) and copy all of the sample
"system messages" onto the disk you have assigned to store your
system files. As explained earlier, all these filenames must
always have the check mark (shifted @) in front of the filename.
There are several ways for you to write your system messages.
You can use any word processor that creates seq text files (like
Easy Script), the standalone message editor program on the BBS
PROGRAM disk, or the message editor routine built into the DOS
section of the BBS. When creating a new message from scratch, I
sometimes prefer to use Easy Script so I can use the full screen
editor to get all the information formatted just like I want it
and then use one of the BBS message editors to edit this message
and add some color and/or graphics.

Lets first talk about how to use Easy Script to create formatted
message files on disk. Load up Easy Script and accept all
defaults for line length and printer type. If you want to format
your messages for a 40 column screen, then you will want to begin
the file by pressing f3 then typing "rm38:pl0:tl0" and a return.
This sets the right margin to column 38 with the page length and
text length set to a maximum length of 255 lines per page. Then
type in the message. Don't press the return key except for the
end of paragraphs and at the end of the file. We will let Easy
Script format the lines of the message for us. When you have
finished typing in the message, type f1 then an "o" for output,
"c" for continuous, then a "v" for video. Now you will preview
your file as it will be when we create our formatted message file
on disk. Use the Commodore key to scroll through the message or
press the STOP key to return to edit mode. Make any necessary
corrections and repeat the above procedure as many times as
necessary. When the message is just right, make a normal file
save using the f1/f/filename method (just in case you ever want
to go back and make more changes to the original file). Then hit
the f1 followed by an "o" for output, "c" for continuous, then an
"s" for sequential file. Easy Script will ask for a file name,

enter "temp". After the file finishes saving, type f1/e/a (to erase all text in memory). Then type f1/l/temp to load the formatted file back into memory. You will notice that the file has been formatted but now has a "qo" in front of every line of text. Position the cursor to the beginning of the file (CLR/HOME) and enter f1/s/qo[RETURN]/[RETURN]. This sets the search and replace strings to search for every occurrence of "qo" and replace it with "". To execute the search and replace, type f1/@/m. After the search and replace has finished, save the file on the proper BBS disk using the correct file name. Remember all system filenames must begin with a . Also remember to scratch the temp file.

To create/edit messages with the BBS message editor, put in the BBS PROGRAMS disk in drive 8 and load "msg editor",8,1 (or type %msg editor with Fastload). When prompted, put the BBS PARMS disk into drive 8 and hit return. In a few seconds, you will see a menu with 4 choices. The first is the message editor itself, the second is a DOS wedge routine, the third will load and run the BBS and the forth will end the MESSAGE EDITOR program and return to BASIC. To edit a message on any drive, press f1 and you will see an input prompt for the device number of the drive that contains (or will contain) the message file. In brackets is a number, just press RETURN if this number is correct, otherwise enter the desired device number and press RETURN. Then you will see a prompt asking for the drive number with a zero in brackets. Again, if this is correct, just press RETURN, otherwise enter a 1 (for dual drive number 1 or LU1 of the LtKernal hard disk drive) and hit RETURN. Next you will see a prompt asking for the drive command to be sent to the drive. Normally you will just hit return, unless you are wanting to access the back side or a 1571 (u0>h1), put a 1571 in 1571 mode (u0>m1), or whatever. The last question is for the filename to edit. Enter the desired filename remembering to add the ∕ or @ symbol, as required. If the file already exists, then it will be loaded into memory for you to edit. If it does not already exist, then one will be created after you enter and save the message. This message editor works just like the message editor on the BBS for entering public and private messages, but has one additional option. If you enter a "G" at the editor command line, graphics mode will be toggled off or on. I find this handy when designing messages that need to look good in both graphics mode and ASCII mode. This message editor will allow you to create/edit messages almost as large as 500 lines, in full color. The online message editor is limited to the maximum number of lines per message as defined in the "∕bbs.parms" file. Something else you will notice is that while the BBS is "wrapping" a word, it may miss a keystroke from the keyboard. This does not happen over the modem, just when entering messages from the keyboard (who said life as a SYSOP would be easy?).

Lets start by editing the welcome messages. For now, lets use MSG EDITOR to edit the sample messages I sent you. Then later if you decide to totally rewrite the messages, you can use whatever seq file editor you want. The BBS has provisions for 2 different welcome messages ("∕welcome1" and "∕welcome2"). The first one will be sent before the password prompts and the second one will

be sent after the password prompts and before checking your mailbox. The BBS expects both of these files to be present on the system messages drive. If either one is missing, there will be a short delay, then everything will continue like normal.

In addition to the 2 welcome messages, there is an optional "/sysop news" file. This file will be displayed to your callers after welcome2 and just before checking their mailbox. If this file does not exist, there will be slight hesitation, then the BBS will continue on with checking their mail box. There are 2 ways this file differs from "/welcome2". First the file cannot be aborted by the caller. It must be read to completion. Second, you can set a date in the file and only callers with their last called date less than this date will read the message. I find this a handy place to post messages that you want all of your callers to read. Let me take a few minutes to explain how the date works. First of all, if you don't enter a date, the whole file will be read to each caller every time they call. If the first line of the file is a date (must be in the format MM/DD/YY and be the only characters on that line), then the file will be read only to callers whose last called date is less than this date. If while reading the file, it finds a second date line (or third or fourth), if that date is less than the callers last date called, the file will stop reading. This allows you to combine several messages in one file and only have your callers read the file one time. If they ever did want to reread the "/sysop news" file, they can do it by re-reading [W]elcome messages. One more important point to make. When reading this file, the cursor will skip down 2 lines only when it sees a date in the file and that date is greater then the callers last called date. So if you create a "/sysop news" file that does not have a date in it, you will want to begin the file with a couple blank lines to separate it from the "/welcome2" text. And when adding a second date in the file, you do NOT want to put any blank lines between the first message and the date just before the second message.

Also, there is a logoff message that will be sent just before the caller is disconnected. Again this message is expected to be there, but no damage is done if it is missing.

The next messages you should look at are the new member messages. There are 2 of them again ("/new user msg1" & "/new user msg2"). The first one is just a short note telling the new caller to make sure they make a note of their password information and leads them into the application section of the BBS. This message should be short so that the new member's membership number and password already printed on the callers screen will not scroll off the top before they have had a chance to write down the information. The second message is the first message you will send to all new callers just after completing the application. It should tell them how to start and stop messages and tell them what (if anything) else they will need to do to gain full access to your system.

Speaking of application, Color 64 BBS allows you to fully customize this area of the BBS. You may just want the city and

state they are calling from, or you may want to ask them
everything. I recommend you keep questions to a minimum. Realize
that any information given is quite often bogus. I was on a
system the other day and it asked my sex and occupation. What
has that got to do with the BBS?? If you are going to ask such
questions, maybe make a note in "./new user msg1" that they only
need to answer as much as they are comfortable with. Anyway,
there is a sample application already on the disk. Take a look
at it and let me go over a few things. First, each line of the
application file is a prompt. The BBS will read in one line from
the application, print it on the screen (without a return) and
input your callers answer. Then it will read in the second line,
print it on the screen and get the second answer. It repeats
this again and again until it reaches the end of the application
file. Then it prints everything back to the caller and asks if
this is correct. If they answer "n", then the application
routine will begin again. Otherwise the answers are stored in
the caller log and in your mailbox. You will be able to print
your mailbox for a hard copy while all your remote SYSOPs will be
able to see the same answers in the caller log. Second thing I
want to make sure you are aware of is each line in the
application is a prompt. Keep them short! Make sure you callers
have enough space to the right of the prompt to answer the
prompt. You would not want to have
"Your real first and last name? " as the prompt. That is 31
characters long, and would only leave 7 characters for their
answer. If you want honest answers in your application, tell
them at the end of "./new user msg1". And then use prompts like
"First name? ", "Last name? ", "Street addr? ", etc. and I am
sure you will find this application meets your needs.

If you want to setup your system to not accept any new callers,
you can create a file named "./bbs closed". Whenever a caller
enters "NEW" to access the new user routines a quick check is
made for the presence of this file. If it is present, the file
will displayed to the caller then they will be disconnected. Some
people find this handy when going to be out of town for a period
of time and others may just want to run a BBS for a select group
of people (eg. a users group). One exception is when you logon
locally (at the console), you can always type "NEW" and get into
the new user section. This allows you to easily enter in any new
callers without having to remove or rename the "./bbs closed"
file.

Another message you need to have for the new callers is the
"./level 1 msg". It is sent just after "./welcome2" for each
caller that is still at an access level of 1. It is to remind
them that they have not met your membership requirements and/or
exactly what they need to do before they can gain higher access
on your system. Of course, if you are not starting new callers
at a level of one, then you will not need this message.

Also, you can have a "./level X msg" for any level. When the
system is loaded up, it looks on the system messages drive for
"./level 1 msg", "./level 2 msg", "./level 3 msg", etc., and sets a
flag for each one it finds. So if you want to send a message to
all level 3 callers, and all level 7 and 8 sysops, just create

the appropriate message files and name them "/level 3 msg",
"/level 7 msg", and "/level 8 msg", respectively. If the BBS is
already running when you create or remove any of these messages,
use (f4) or "^" to reset the date and time. This routine also
includes the code to reset the level message flags.

Another message you might need for new callers is
"/membership full". This file will be used to notify a caller
that membership to your BBS is currently full and ask them to
call again at a later date. The reason for having a membership
full status instead of automatically cycling old passwords is to
eliminate the chance of a "hacker" repeatedly logging on as a new
user while you are away on a weekend and cycling everyone's
password off of the system.

Another message you may want to edit is called
"/member list msg". This short little message explains to the
callers why their name may not be in the membership list even
though they may be a new member. We need to have some control
over what names are put in the membership list. So rather than
have the system automatically list all names from the password
file, we maintain a second sequential file called
"/membership list". And there is an option in the Password
Maintenance routine to make a new membership list. This gives
you a chance to remove any offensive words in members names (you
should be able to see them in the caller log) before making a
public list that your callers will see. I am afraid to say that
you may occasionally see some obscene names or offensive words
used as members names. Anyway, the "/member list msg" is sent
just before the membership list to explain why a new caller may
not see their name listed until after the system operator has had
a chance to review all the new applications.

Another message you will need to edit is the "/information" file.
This should tell your callers a little something about your
system like where you are located, purpose of the system, etc.
And I require that you keep a note in the information file that
this is Color 64 BBS version 7.30 and is (C)opyrighted by Greg
Pfountz. And I would appreciate it if you would include my BBS
number (703-466-2120) for anyone wanting more information about
getting a copy of this BBS for themselves.

Another couple messages you will want to personalize is
"/sysop not here" and "/still not here". The first one should be
a short little message that you send to your callers after they
attempt to chat and if you do not respond to the page. The
second one is read if a caller attempts to chat with you a second
time even though you had not answered the first page. This
prevents callers from wasting a lot of time ringing the pager
over and over again. And since the border on your console is
highlighted whenever a caller wants to chat, there really is no
reason to page the SYSOP more than once.

In the uploads routines, there are a couple more messages you may
want to personalize. The first is "/upload msg". This file now
simply says "Do not upload any copyright software". This is a
constant reminder to your callers that it is illegal to upload

any copyright software to any BBS. You may want to mention what
will happen if the rules are broken, or reword it in some way.
The second file you may want to look at is "./upload held". This
is the file that tells a caller that their upload will be held
until a SYSOP releases it. This file is only sent to callers who
have an access level below the "auto-release" level defined in
the UPLOAD/DOWNLOAD section of SETUP.

If you intend to use the vote option, you will need to create two
more message files on the system messages disk. The first is
"./vote msg" and should be a full message describing what you are
voting about and what their choices are. There are not any limits
on this file, other than it should instruct your callers to vote
by entering a number. You could say something like vote [1] for
YES, [2] for NO, [3] for UNDECIDED.

The other file needed by the vote routine is "./vote ballot".
THIS FILE HAS TO BE MADE EXACTLY RIGHT. If you have 3 choices in
your vote, then there must be exactly 3 lines in your ballot
(make sure there are not any blank lines at the beginning or
end). The first line should complete the sentence
"XX% voted ...". For example, if your vote is a yes/no type
vote, line 1 may be "yes.", line 2 may be "no." and line 3 may be
"undecided.". So when a caller sees the results, they will see:

      XX% voted yes.
      XX% voted no.
      XX% voted undecided.

Only level 3 and above callers will be able to vote (unless you
change that in SETUP). Each caller has one vote and can change
their vote simply by voting again. If you do not care to have
the voting option enabled, simply do not create the "./vote msg"
and "./vote ballot" files. Also, when changing the voting ballot,
you will need to scratch all files matching the pattern "./vote*".
Use the COLOR 64 BBS DOS routine to do this. Besides the 2 files
you create for a vote, there is one more file automatically
created by the BBS to store the current votes (called "./votes").
And make sure you "REBOOT" the BBS before attempting to create a
new vote or you will get a "redim'd array" error.

In addition to the other system files, you will also need to edit
each of the menu files. They are 9 menu files named, "./menu1",
"./menu2", "./menu3", etc., one for each access level. Example
menus are included. You will at least need to edit the line that
says "Your BBS name" and replace it with your BBS name. But
hopefully you will be able to come with some different menus that
will make your system really unique!

Before moving onto the other files, I want to cover one more
thing about system files. Often when you use a lot of graphics
in your system files, non-graphic callers will have a difficult
time reading the file (sometimes it is just impossible). This is
especially troublesome in the menus and welcome messages. I do
have provisions in Color 64 BBS to have alternate system files
just for ASCII callers. But this is totally optional. If you
skip onto the next paragraph, all callers will read the same

messages (which is normally just fine). Anyway, my goal in designing this system was to come up with a method where it would not force us to maintain 2 complete sets of system files. And to have the system automatically send the right file without having to wait for the slow 1541 drives to try to open one file and if not found then open the other. Here is how it works. You create all your graphic messages first and save them on your system files drive so that they are at the top of the directory. Then you rename the files that you want to have separate graphic and non-graphic versions so that they have a "+" at the end of the filename (ex. /menu1 would be renamed to /menu1+). Now you create the non-graphic file and save it on the disk using the normal name (ex. /menu1). That is all there is to it. The only trick will be to keep the all the "+" files in the directory ahead of the non-"+" files. If they get out of order, the system will then send the same non-graphic file to both graphic and non-graphic callers. One more thing, this does not work on /welcome1. This file is actually read from the disk before the caller tells the BBS if they are using a graphic terminal program or not. So make sure you design /welcome1 so that it looks good in both graphic and non-graphic modes. Also, any system file that is not actually "read" to the modem can not have separate non-graphic versions (ex. /application, /vote ballot, etc). For the technically minded person, here is exactly how the system works. Whenever a system file is opened to be read, if the BBS is in graphics mode, it adds a "*" to then end of the filename. This tells the drive to find the first file matching the pattern, so /menu1+ will be found before menu1. And non-graphic callers would still just see menu1.

A full set of help files are included on the back of this disk, but no text files. The help files and text files work exactly the same. So use the help files as a guide when setting up your text files. There needs to be a file on the HELP FILES disk called "@help files". But instead of having a check mark as the first character of the filename, it has an @ symbol. This symbol will prevent the file from showing up in the download directory, but still allow your remote SYSOPs to download, scratch and reupload these files as necessary. As a matter of fact, anyone can download these help files (you will just have to tell them how). This is an easy way for your callers to download them if their terminal program does not support an ASCII file capture.

The "@help files" file is a menu file that when read should tell your callers what number to enter to read the desired file. This menu file can be in any format you want, even use graphics if desired and you can use any amount of numbers in any order you want. Each help file on disk should have the filename format of "@help1", "@help2", "@help3", etc. When your caller enters "1", they will read "@help1".

Text files work exactly the same only you use "@text files" to describe "@text1", "@text2", etc. If the "@text files" file is not on the disk when a caller asks for the text files, he will see a message saying that there are not any text files online. Same goes for the "@help files" file. There is not any limit to the maximum number of help files or text files allowed other than

the amount of free space on your disk drive.

After editing all the system messages, you should use Super Xfer
(or any suitable file copier) to copy all of the sample help
files onto the disk you assigned on the drive assignments screen
of SETUP. Then use MSG EDITOR to read (and if necessary edit)
each of these help files. They will tell you and all your new
users how to use this BBS to its fullest. I did not repeat the
same information here, so make sure you take the time to read
them. In the UPLOAD/DOWNLOAD file, there is a sentence saying
that you will be glad to make a copy of a Punter color/graphics
terminal program for any caller needing one and for them to
contact you through feedback if they are interested. I have
included CCGMS TERM 4.0+ and CGTERM-128 v3.3 on the back of the
BBS PROGRAMS disk. These are just a couple good color/graphic
terminal programs for you to give to your callers. They each
support many kinds of modems, variable baud rates up to 1200,
punter, ASCII uploads & downloads and much more. If you would
rather handle callers needing a Punter terminal program a
different way, you will need to edit this help file and make the
appropriate changes.

LOADING THE BBS

At this point, you should have already created your parameters
file, password file, system messages and help files. Each drive
assigned in your parameters file should have a disk in it with
the proper files already on it. If you want to start your system
with some files in the download directory, make sure you put them
in the proper drive now.

Now you are ready to load Color 64 BBS for the first time (the
big moment). Put the "BBS PROGRAMS" disk in drive 8 and enter
load"bbs",8,1 (or %bbs with Fastload). When the program has
completed loading, you will see a message on the screen telling
you to insert your BBS PARMS disk in drive 0, device 8. This is
the disk that has your "./bbs.parms" file on it and will tell
Color 64 BBS what modem you are using, which drives contain which
files, etc. After the PARMS DISK is inserted, press the RETURN
key. The parameters file will be loaded into memory, then you
will be told to switch your modem to data/answer. If you are
using a Hayes type modem, you do not need to do anything (it is
automatic), but if you are using a 1650 or 1660, you will need to
make sure at this time that your modem is set and ready to
receive a call.

Next, you will be asked to enter the correct date. You must
enter it in the format of MM/DD/YY. MM is the number of the
current month and must be 2 digits in length. DD is number of
the current day and must also be 2 digits in length. YY is the
number of the current year and also must 2 digits in length.
Separate the month, day and year with a diagonal slash (/).
Normally, you will never need to enter this date again. When the
system is shut down (using f8) and many times during the day, a
file is written to disk ("./variables") that contains the current
date. Just above the question asking for the date is a line
displaying the current date and time. If the date is already
correct, you would just hit RETURN. If the date is changed (for
whatever reason), then the BBS figures it was "asleep" when
midnight passed and did not get a chance to reset all the time
limits. If that is true, then answer Y to the question asking to
reset the time limits. This will set a flag and each caller's
time limits will be reset after the BBS program has finished
loading up. If this is your first time to bring up the system,
then just type an "N", since there really aren't any member's
time limits to be reset.

The next question you will be asked is for the current time. I
am using one of the clocks built into the CIA chips, so you
should find the clock will keep very accurate time. Once this
clock is set and as long as the computer has not been turned off,
the clock WILL be correct (even if you don't set it again for
months). If the time is already correct, just press the RETURN
key. But if the clock needs to be changed, you need to enter the
correct time in two steps. First enter the current hour using 24
hour military format. 12 midnight would be 0, 10 am would be 10,
12 noon would be 12, 2 pm would 14, 8 pm would 20, etc. Next you
will be asked to enter the current minute. No surprises here!

While the BBS program is waiting for a caller, if you press any
of the function keys, you will see a SYSOP menu. f1 on this menu
is local mode. This allows you to go online the BBS just as if
you called up over the phone line, except "/welcome1" will not be
sent, graphics mode will automatically be turned on and text will
scroll across the screen at a maximum rate (unless you press and
hold the shift key to simulate a character rate of 300 baud).
You will still need to type in your membership number and
password and everything else acts just like you are online over a
modem. When starting a new system, it is IMPORTANT that you
enter at least one public message before letting any other
callers logon. There are two reasons for this. First, this will
force the last message read variable to be incremented by one
(allowing new callers to read their mailboxes the next time they
logon to your BBS). Second, it is critical that when the first
message is posted on a new system that you always answer Y to the
question "Start a new subject (Y/N)?". When you type O for
logoff, the BBS will save your last message read variable along
with several other stats and then begin waiting for the next
caller.

f2 on the SYSOP menu will take you to the built in TERMINAL
section. You will see another menu allowing Terminal mode,
Change Graphics/Baud Rate, Autodial, Dos Wedge (requires an
overlay), Upload, Protocol (Punter or Xmodem), Download and
Return to BBS mode. This simple terminal program supports full
color capabilities with the ^b background mod in place. Once in
terminal mode, you press f1 to exit back to the TERMINAL menu to
start an upload or download or return to the BBS.

f3 on the SYSOP menu allows you to print the caller log onto the
screen or a printer (Commodore or compatible setup as device #4
only). The caller log is stored under the basic rom and is
continuously updating itself. The log is limited to 8k of memory
and as more information is added, the oldest information is
removed. You will find that this log will usually hold the last
day or two of callers. When someone calls, their name and the
time they called are added to the log. Then a "trail" is made of
their activity. This can be helpful in determining what areas of
the BBS are most frequently accessed or which downloads are most
popular. Also it can be useful in tracking down a problem user.
Press the home key to pause (it generates the same code as a
CTRL/S) or SPACE BAR to abort.

f4 on the SYSOP menu allows you to reset the date and clock and
re-initialize the "/level X msg" variables and "/vote" status.
There will be little need to change the time or date, but if you
ever add or remove a "/level X msg" or if you should open or
close the voting booths, make sure you select this option (or use
the ^ command online) to reset the appropriate variables.

f5 on the SYSOP menu allows you to print your mailbox to the
screen or printer. (If you are using an SFD with the CSI Connect
400 interface to store your private messages, you will not be
able to print your mailbox to the printer due to a bug in that
interface). Use the HOME key to pause or SPACE BAR to abort.
After reading your mail, you will be given the option to send a

private message in response and clear your mailbox file. All
replies from this selection are addressed as sent from membership
number 2.

f6 on the SYSOP menu will take you into the password maintenance
routine. This routine is used to display (or print) and edit
your password file. Again, if you are storing your password file
on an SFD with the Connect 400 interface, you will not be able to
print. Use the HOME key to pause and the SPACE BAR to abort. At
the end of the listing, you will be told how many passwords are
on file. If you see this value approaching the maximum number of
passwords that you set your system up for, you will know it is
time to either remove some callers that have not called in a long
time or to increase the size of the password file. When the
listing is completed or aborted (abort with the space bar - you
may have to hold it down for a few seconds), you will be given
the opportunity to edit any of the password records. Enter the
membership number of the member to edit and that member's
information will be printed to the screen (access level, name,
password, number of blocks uploaded, number of blocks download,
time remaining today). You will notice that not every statistic
is available for editing. I do not ever anticipate a need to
edit the date last called, times called, etc. But if you need to
add/subtract from the number of blocks uploaded/downloaded,
change the callers name/handle, password, access level, or time
remaining today, you will be able to do that here. One by one,
you will be allowed to enter new information or just press RETURN
to leave the information unchanged. To delete a member from the
membership list, change their access level to a 0. You will be
asked "are you sure?". This will also automatically delete any
old mail that still may be on the system addressed to this
member.

One function you will need to perform regularly is to create a
new "./membership list". This is the list that the callers will
see when they select (M)embership list. Having a membership list
separate from the password file that is updated only by the sysop
allows us to remove any embarrassing words or phrases from the
password file before making a new public membership list. After
you have listed and possibly edited the password file, you will
be given the opportunity to create a new membership list. If you
are just setting up your system for the first time and have not
yet made a membership list, then now is a good time to edit your
name and password. When you list the password file, you will
only see one member. It has the password that the BBS
automatically setup for you the SYSOP. Enter 2 for the record
number to edit. Then press RETURN until you are prompted for your
name. Type in your name. Then press RETURN until you are
prompted for your password. Now type in your new password. Then
type return a few more times and your password information will
be saved to disk. Next, press RETURN when asked for the record
number to edit and answer "Y" to create a new membership list.
When the routine is finished, the program will automatically
return to the waiting for caller screen.

f7 on the SYSOP menu will take you to the BBS Dos Wedge routine.
This routine is in "./bbs.xfer 7.3", so there will be a 15 second

delay after pressing f4 (unless you are using a 17XX ram
expansion module). It operates exactly like the one in the
MESSAGE EDITOR program. The DOS command format is as follows:

    @ - read error channel
    $ - display a directory (pattern matching allowed - $0:A*)
    # - change device number (#9 - select drive 9)
    n - format disk (example - n0:diskname,id)
    s - scratch file (example - s0:file1)
    c - copy file (example - c0:file1=file2)
    r - rename file (example - r0:file1=file2)
    f - read file (example - f0:file1)
    p - print file (example - p0:file1)
    % - regenerate directory
    ! - message editor
    x - two drive file copier

An extra I added to the directory routine, is that it counts the
number files selected. For example, if you want to see how many
callers have mail waiting for them, you could switch to the drive
that holds the private messages and then do a $0:/private* and
hit return. All filenames matching that pattern will list on the
screen and at the end, you will see a line saying how many files
were selected. I have found this feature very handy when trying
to balance my files between the drives. When reading a directory
or sequential file, press the HOME key to pause, or the SPACE BAR
to abort.

f8 will save the message index, caller log, system variables and
exit to BASIC. This is the ONE AND ONLY proper way to shut the
system down. If you hit the stop key by accident with the stop
key enabled (rerun on errors turned off), type "cont" and hit
return. If that doesn't work, type goto9999 and let the system
shut down, saving the message index, caller log and variables.
Stopping the system without using f8 (or goto9999) will leave
files open and some vectors pointing to the BBS's ML routines.
In any case, using the computer for any other purposes in this
condition will most definitely cause a system crash. Also, the
message index will not be saved to disk, causing the system to
have to regenerate that index (can take an extra 15 to 45
minutes) when the system is restarted.

ADDITIONAL COMMANDS
CONSOLE MODE ONLY

The keyboard is always active, even when a caller is online.
This allows you to enter a command for a new caller, log a caller
off, etc.

f1 from almost anywhere in the BBS will enable CHAT mode. f3
will exit. When you exit CHAT mode, a CONTROL/P will
automatically be placed into the keyboard buffer. So if your
caller is reading a long text file, you will want to avoid
breaking in until they reach a good stopping point. During the
time you are in CHAT mode, the BBS timer stops. The callers time
online and time used today will not reflect this time in CHAT
mode.

It is possible to change a callers access level, time remaining,
blocks uploaded, blocks downloaded and online status while the
caller is online. To do this, make sure the caller is at the
main command prompt and press f5. On your screen only (the
caller will not see this), you will see a six part input prompt
asking for level,time1,time2,dnld,upld,1=local. Level is the
callers access level for this call. Changing this variable is
just a temporary change, the next time this caller calls back,
they will be back to their original level. Use Password
Maintenance to permanently change a callers access level. Time 1
is the amount of time remaining on this call and time 2 is the
amount of time carried forward for future calls today. Time 2
will be added to time 1 when the caller logs off, giving the
amount of time that caller has remaining today. The current
values for each input are already typed on the screen, so just
cursor right and left to change the desired values and press
RETURN. Dnld is the number of blocks this caller has downloaded
and Upld is the number of blocks the caller has uploaded. If you
want to give a caller some more download credits while they are
online, you would either raise the blocks uploaded or lower the
blocks downloaded. Local is either a 1 or 0. If you enter a 1
here, the system will go into local mode. Even when you exit
this routine, the caller will not see what is going on. This
allows you to put a caller on hold, while you quickly look at a
password in the password file, or check the caller log. To put
the caller back online, press f5 at the command prompt, then
change local to 0. The caller on the other end will then see
another command prompt.

There is a special message merge routine that can only be used
while online the BBS console (not from remote). If you end your
message with "/e" then press the Commodore key while at the
message editor prompt, you will be asked for the merge filename.
This allows you to merge any existing file from your system files
drive into the message (or mail) you are creating with one of the
message editors. I find this real handy for sending a
"form letter" to all my new members.

There is a special carbon copy feature built into our private
mailbox editor. After reading any incoming mail, at the

(D)elete, (R)eread, (A)utoreply prompt, if you press the
Commodore key you will see a "carbon copy" prompt. If you answer
Y, this piece of mail will be transferred to the default message
section of the BBS. I find this real handy when a caller leaves
a question in feedback that would benefit more people if it were
in the public messages area. All you would need to do is select
(P)ost a Message, answer N to private, select the appropriate
category and then use /* to carbon copy the default message into
the message editor (more on using Color 64's default message can
be read in your help files on the back side of your master disk).

There are times when it may be desirable to "break" the BBS
program, even though the STOP key is disabled. Maybe you have a
programming error and need to examine variables, maybe your modem
locked up and the program is waiting for it to clear, etc. If
you ever get into this situation, just press and hold the SHIFT,
COMMODORE, and CONTROL keys all at once. If this does not seem
to work, tap on the restore key a few times while still holding
down all three shift keys (sounds impossible?) then let go and do
a RUN/STOP RESTORE. That will usually work. If not, then
possibly you have experienced a hardware or power related
problem, locking up your computer.

There is a special utility program on the BBS PROGRAMS disk
called "display crash". If for any reason the system crashes and
reruns itself, the BBS program will take a picture of the screen
at the time of the system crash and store it for you under the
kernal rom. This display crash program can be used to recall
that saved screen. All you do is shut the BBS down using the f8
shutdown procedure. Then (without powering off the C64) put in
your BBS PROGRAMS disk and enter load "display crash",8,1.
Almost immediately the system crashed picture will reappear.
Carefully examine it to see what kind of error you had and in
what line number. If you have an old kernal rom, some of the
recalled picture may be unreadable. If this is the case, just
type:

poke53281,1:print"[home/clr]":poke53281,0:load"display crash",8,1

to see the screen. You can redisplay the "system crashed" screen
as often as needed unless the C64 has been powered off.

There is another utility program on the back side of the
BBS PROGRAMS disk called "dir create 7.30". This program can be
used to quickly create a new ./directory file for your download
directories. It is true that Color 64 would automatically a
./directory file the first time a caller asked for a directory,
but that directory regenerate can take quite a while (especially
if you have a a lot of files on the disk). "dir create 7.30" is
a standalone program just for creating your ./directory file the
first time (it will not work if you already have a ./directory
file on your disk), and as such it works very fast. So if you are
wanting to start your system with hundreds of files already in
your download areas, I recommend you use this directory create
utility on all your disks before you load up your BBS.

I hope this explains most everything you will want to know about

this BBS program, but if you do have any questions, please feel free to contact me by feedback on the Daily Exchange or US mail. I plan to make all updates free if you will send me a blank formatted disk with the proper return postage or by downloading a small "mod" files from my BBS. And since this program is written and running in BASIC, it will be easy for you to change. So if you have made any good changes, I would like to hear about them. I plan to keep improving this BBS and am hoping to get a small group of SYSOPs all running this system with everyone helping in its development. If you have any special requests or suggestions for improvement, please do let me know. Also, if you have time, call my BBS once in a while. We will have a private message category and a private download directory reserved just for owners of Color 64 BBS. This may be a good place to see if anyone else has experienced problems or to brag about some of your mods you have made.

PASSWORD FILE
BACKUP & RESTORE PROCEDURES

The following procedures will allow us to copy the data out of
our REL password file into an easier to handle SEQ file for
backup purposes and restore our password file (all or just one
record) from that backup file when needed. With these two
utilities, we can safely store our password file anywhere we
choose (like on an SFD 1001 or hard disk drive), as long as that
drive is capable of handling relative files.

To BACKUP the password file, load "bak pswd 7.00" and run it. It
will ask for the device number, drive number and drive command of
the drive where your password file is stored. On your screen,
you will see an " 8 , 0 i0". Change this as necessary and hit
RETURN. That is all you need to do. You should start seeing a
counter increment, indicating the current number of records
backed up. When the program is finished, you will find a new
sequential file on your disk called "/password backup". This
file contains all the information currently stored in your
password file, but in an easier to handle SEQ format. Then you
NEED to copy this file onto another disk for safe keeping using
any file copier (like Super Xfer).

To RESTORE the password file, you first need to make sure a
relative password file already exists. The restore program will
not create a password file, it only fills the password file with
data from the password file backup. So if there is not already a
password file on the desired disk, run the SETUP program and it
will make a new one for you. The password file does not have to
be blank, RESTORE will write over any data currently in the file.
Also, you need to make sure the "/password backup" sequential
file is also on that same disk. Use a suitable file copier (like
Super Xfer) if necessary to copy the password backup file onto
the correct disk. To begin the RESTORE, load "restor pswd 7.00"
and RUN it. It will ask for the device,drive number, and drive
command of the disk drive containing the password file with an
" 8 , 0 , i0" already typed on the screen. Change this as
necessary and press RETURN. Next it will ask for the record
number to restore or 0 to restore all records. That is all you
need to do. You should now see a counter increment as the backup
file is restored into the password file. This restore is much
slower than the backup, that is normal when writing into a
relative file. Hopefully, we will not be doing to many restores
anyway. When the restore program has finished, the password file
will be ready to use.

There is also a special utility program on the BBS PROGRAMS disk
called "fix pswd 7.00". This utility can be useful if for some
reason you find a caller's record is unreadable. This program
will NOT fix disk read errors, it just straightens out records
that have corrupted data. Normally you would use
"restor pswd 7.00" to restore a bad record, but if you do not
have a "/backup password" file, this may be the only other way to
salvage what is left of your password file.

Using Color 64 BBS With The
InConTrol Data Chief

Color 64 BBS version 7.30 fully supports the I.C.T. Data Chief
HFD20 hard disk drive system. All you need to do is use
"hm4 11 22" as the drive command for whatever files you want
stored in a chain defined as starting at partition 11 and ending
at partition 22 or h10 for files you want stored in an individual
partition 10. The only files that you can put in chain mode are
PUBLIC MESSAGES, HELP FILES, TEXT FILES, UPLOADS and DOWNLOADS.
SYSTEM FILES, PRIVATE MAIL, CALLER LOGS, PASSWORD FILE and
PROGRAM FILES must be assigned individual partitions. And if you
are using the Epyx Fastload cartridge, you must put your program
files on H0 (the built in floppy) or you will experience
intermittent system lockups.

The ICT has been tested with the Burst Mode Rom from Chip Level
Designs and it works GREAT! This rom allows your C64 or C128 to
access your hard drive in its burst mode of operation, speeding
up all disk access by 2 to 10 times. Also, if you have a 1764 or
1750 Ram Expansion module, let me know. I have a couple of
optional modules that will allow you to do all of your hard drive
maintenance from within Color 64.

As far as download directories, I recommend you answer "N" to the
question "Multiple Directories Per Drive" in SETUP. As far as
Color 64 BBS is concerned, each different chain looks like a
different drive. Running one directory per drive/chain has the
advantage of not having to rename files before they can be
downloaded too. It will work either way, this is just my
recommendation.

One last comment. The scan for new downloads is a little slower
on the ICT drive then on other drives. That is because it IS
necessary to read two different files in 2 different partitions.
So we are having to open and close a lot more files then on the
CBM drives. But all in all, it does work well and is still fast
enough, in my opinion (especially if you have the burst mode rom
in your computer).

Using Color 64 BBS With A 2400 Baud Modem

Color 64 BBS version 7.30 supports the Hayes Smartmodem 2400 and
many good compatible modems. You should find that your C64 and
Color 64 can handle 2400 baud file transfers with less than 10%
errors (many will find error free file transfers depending on the
quality of your modem and phone lines).

Here is how I recommend you setup your system for 2400 baud.
First thing you need to do is to configure your modem. They come
from the factory with DTR and CARRIER DETECT forced true. The
1200 baud modems had switches while the 2400 modems don't.
Instead they have a series of commands that are entered from a
terminal program then stored in permanent memory. The following
commands are what I recommend you type to setup your modem. Just
load a simple ASCII terminal program, and at 300 baud type the
following:

```
AT&F
AT&D3 (some compatibles prefer AT&D2)
AT&C1
AT&S0
ATX1
ATS0=0
ATM0
ATE0
```

Now switch your terminal to 2400 baud and type:
```
AT&W
```

AFTER you have performed the above, you need to run SETUP and in
the MODEM INIT command, enter: +ats7=15s10=30

The first step above presets your modem to disconnect and reset
to power on configuration when DTR is dropped, monitor carrier
lost and disconnect if false, force DSR true, not auto-answer the
phone, turn off the speaker, turn echo off and then save this
configuration in permanent memory within the modem. After typing
the ATE0 command, the modem will quit echoing to the screen. This
is the only reliable way to send "at" commands at 2400 baud with
a Commodore 64 (eg. with echo disabled). It seems the echoed
characters would bog down the software driven UART to the point
where it would garbage the data entered. Anyway, the BBS does
not need echo and when you want to auto-dial another BBS, just
use the autodialer built into the term.

The modem init command in SETUP will set the modem to wait for a
carrier for 15 seconds. I found that 30 seconds was too long and
often the telephone companies off-hook attention signal would
confuse the modem to think it had carrier. Besides, 15 seconds is
plenty long to wait for a carrier. This s7 register is not saved
in permanent memory when using the AT&W command, so we need to
enter it here in SETUP. The second part of the modem init
command will set the carrier lost disconnect delay to 3 seconds.
This will help minimize the number of carrier losts experienced
on the BBS if your callers have call waiting. Realize that if the
caller is using a modem that does not have the ability to adjust
the carrier lost delay or they do not have it set long enough,

their modem will hang up immediately and your modem will follow 3
seconds later.

```
┌─────────────────────────────────────────┐
│  COLOR 64 SYSOPS SUPPORT ON GENIE        │
└─────────────────────────────────────────┘
```

GEnie (a national network) has setup a 'Home Away From Home' for
Color 64 BBS Sysops. This includes a private area for posting
messages as well as uploading/download the latest mods and
updates.

To signup on GEnie:

1. Set your Terminal software for LOCAL ECHO/Half Duplex[1] at 300
   or 1200 baud.

2. Dial (toll free) 800-638-8369. Upon connection, enter HHH

3. At the U#= prompt, enter XJM11890,GENIE and press RETURN.

GEnie is available without monthly charge and without any hidden
extra charges for $5 per hour for both 300 and 1200 baud. There
is a one time signup fee or $29.95 and currently includes a $10
credit towards connect time as well as a nice manual. You will
be called by a GEnie representative within a few days to verify
the information you left.

If you need additional assistance, call 800-638-9636 (voice).

Our Color 64 BBS Home Away From Home is located inside the
Commodore Roundtable Bulletin Board area. GEnie maintains
multiple databases for each bulletin board as well as each
roundtable. It is not until you have joined the Commodore
Roundtable (MOVE 625) and gone into the Bulletin Board section
(selection #1 - it will say something about all messages being
new) that I can invite you into our private message category
(#24). The same applies to the Roundtable Software Libraries
(#39), just look at the directory once to get your name in the
database of members, then leave me a message (send GEmail to
COLOR64BBS) and I will fix your access.

You will want to check messages and downloads at least once a
month to prevent being purged from the Commodore Roundtable
database.

Also, on the first Sunday of every month, at 7:00 pm EST, there
will be a 2 hour conference in conference room #5 for all Color
64 Sysops. This is a great place to chat with other Sysops and
myself.

And of course, I will continue to run my BBS to provide support
to all my customers (703-466-2120 - 1200/2400 baud). This GEnie
offer is just an alternative way to get in touch with me without
busy signals and without the high cost of long distance.

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[1] An alternative to using LOCAL ECHO is to type CTRL/R just after
the U#= prompt and before entering the XJM11980,GENIE. This
allows you to call using your terminal built into Color 64 BBS.

NETWORK 64

Congradulations on your purchase of *COLOR 64 BBS*. Now its time to expand your capabilities! This software will enable you to communicate with any other *Color 64 BBS* running this software whether it be around the block, or around the country! Currently there are more than 200 SysOps just like you running this software. Here's your chance to get in on it!

This networking software is unlike any you might have seen before. Instead of one central node, YOU pick who you want to send to, and who you will allow to receive from.

The software consists mainly of two add-on modules, all the necessary support files, and easy step by step instructions. There is one major requirement. You MUST have any of the two rampaks 1750 or 1764 (or any rampak which has storage of 256K or more). A 1700 will NOT be sufficient. The software is also completely compatible with *Xetec's Lt. Kernal* hard drive. You can use this drives lightning speed in place of a rampak.

Sending is done in an extremely efficient manner. Most sends will take less than 60 seconds. You can have the network send anytime you like. You can even tailor the system to store a few messages before sending instead of sending everytime you get one.

You can send private E-Mail to almost anyone on your nodes, or you can send public messages. Replies are only available privately.

There is a complete billing system included in case you want your users to absorb (or help absorb) the costs. You'll be very surprised at how inexpensive it is to run this system! My BBS sets all nodes free, and my phone bill has only gone up about $8.00 per month! Most people have a deeply rooted fear of making long distance calls, but as hard as it is to beleive when you consider that a one minute long-distance call costs about 18 cents, and you have 30 callouts per month, that's only $5.40!

Those are just the basics of the software. There are MANY, MANY features too numerous to mention. Network 64 is copyrighted with permission from Greg Pfountz. Price is only a measly $20.00, and all updates are **ALWAYS FREE!**

If you have any questions, my name is Sam Lewit, and I can be contacted through my BBS, *The Daily Exchange* (#125), *GEnie* (S.LEWIT) or by writing.

IMPORTANT! If you place an order, please include your BBS name, number, hours and any special features. A listing of all current boards will be included with your software. If you don't leave us this information, your BBS can not be listed. Personal check or money orders are fine (avoid cash in the mail!). Make checks payable to Thunder Bay Computing.

Please allow 2-3 weeks for delivery.

Network 64 is Copyrighted by Sam Lewit 1987, 1988

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