

ARB

ARB BBS
BULLETIN BOARD SYSTEM
FOR COMMODORE 64/128™

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bulletin board system

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NOTES

GETTING STARTED

WHAT YOU NEED

- * One Commodore 64 or 128.
- * One Auto-modem (1650, 1670, Westridge, Microbit 1064, Master Modem, Total Telecom, Mitey-mo, Avatex 1200, Anchor12).
- * One to five single or dual serial drives and/or up to nine single or dual IEEE drives.
- * One video monitor or television.
- * Several blank floppy diskettes.
- * Optional printer.
- * Optional extra phone line.

* IMPORTANT *

DO NOT USE ANY FASTLOADING CARTRIDGES (FASTLOAD, MACH5, ETC.) WITH THIS PROGRAM. REMOVE THE CARTRIDGE FROM THE COMPUTER.

HOW TO USE THIS MANUAL

Before you start operating the BBS, **read** this manual. Familiarize yourself with all the System functions. Understand how the files are set up. If you experience any difficulties refer to the Trouble Shooting Section for help. The **ARB Bulletin Board System** runs itself once set up. It requires very little maintenance.

Before you call the 24 hour help hotline numbers check this manual to see if the answer to a particular question can be found here.

MAKING BACKUPS

To facilitate making backup copies of the distribution disk, this program has not been copy-protected. There are two sides to the distribution disk. The first side contains the ARB BBS programs. The second side contains the ARB BBS files. The first thing you should do is to make a backup copy of each side of the original ARB BBS distribution disk. Copy each side to the first side of two new disks. Don't use the second sides of the backup disks because BBS file disks tend to get dusty. Put the original disk away in a safe place. Make your modifications only on the backup disks.

When making backups I recommend using a freshly formatted blank disk and the "x4" copy program included on the program disk. Nibble copiers will transfer disk errors, the "x4" program will not.

Please do not give copies of the BBS to your friends, it is not in your best interest to do so. Regularly make backup copies of all your file disks.

LOADING THE PROGRAM

Start fresh by turning the computer off and on. Insert the program disk into your drive (label side up).

```
load "boot",8 <return>
type "run"    <return>
```

If the program fails to load, turn your computer off and on and try again. Make sure you have the right diskette.

If the program loaded properly, you should see the **Boot Menu**. From this menu you can select various BBS options. Always use the Boot Menu to load any of the support programs. This will insure proper initialization of the machine language routines and system vectors.

CONFIGURING THE BBS

Remember, the first side of the BBS distribution disk is called the **BBS PROGRAM DISK** and the second side is called the **BBS FILE DISK**. By now you have copied all files on both sides of the disk to a new disk.

The first time that you run the BBS, select option one on the Boot Menu (1. Configuration). This will load a program called "cfig" which allows you to set the BBS parameters. When "cfig" is loaded follow this procedure:

1. Read the instructions in the program.
2. Name your BBS.
3. Create your Categories and Subboards.
4. Change configuration to match your needs. You must initially create two configuration access levels. Level 0 (t0) for new users and Level 1 (t1) as a default entry level. There can be up to thirty-six separate access levels (0-9 and a-z) that you define using the "cfig" program. Each level is stored in a file starting with the letter "t" (t0, t1, t2, ty, tz, etc.). These "t" files must be on your BBS file disk.
5. View the configuration for the level you created. You may direct this output to a printer for a hard copy.
6. Save the configuration to your BBS file disk.
7. Save level 1 ("t1") on to your backup BBS program disk so the BBS will boot with a configuration that is compatible with your hardware. If you do not save "t1" on to the BBS program disk your modem may not pick up the phone.

The "cfig" program contains instructions and prompts that will guide you along. If you are not sure how to answer a question just press <return> and the program will default to a pre-set value.

Use option 9 in the "cfig" program to get to the main **ARB BBS** program. You can also get to the main BBS program by selecting option 2 (ARB BBS) on the Boot Menu.

SYSOP MENU

After the program loads, the BBS prompts you to enter the current date and time. M,D,Y means enter the month, day, year (e.g., Dec. 25, 1987 is entered as 12,25,87). Day:Sun=1 means enter the day of the week (Sunday=1, Saturday=7). The time is set in military time (e.g., 10:45 P.M. is entered as 224500; 1:00 P.M. is entered as 130000). After responding to these prompts, the Sysop Menu appears on the screen. Each command function will be discussed in the order it appears on the Sysop Menu.

1. ONLINE

Pressing "1" puts the BBS into the "Online Waiting for a Call" mode, where it waits for the next caller. As soon as this key is pressed, a "wait" message appears, and a "wait" file is loaded (more on "wait" files later).

The Online Screen contains the following information:

Top line: Copyright notice
2nd line: Date, ARB BBS version number, and clock. If one of your disk drives has too many files, the message "OVER" appears, as well as the number of the drive that is OVERLOADED.
NET line: Network information, Networking drive# (0=off). "Auto" means BBS will Auto-call out at 3:00 A.M. Numbers indicate which network ID nodes have messages waiting to be sent.

U/l = number of files uploaded.
Fbk = number of feedback messages waiting to be answered.
Reg = number of registrations waiting to be validated.
D/l = number of files downloaded that day.
Post = number of messages posted that day.
Call = number of calls received that day.
Chat = number of <C>hat requests received that day.
Read = number of messages read that day.
Days = number of days the BBS is continuously online.
> = the last caller and the time he/she logged off.

The bottom status line contains the following:

F1 Return to Sysop Menu
F3 Do Auto-Maintenance immediately (never stop in the middle of Auto-Maintenance or else.)
F5 Send
 <C> Sends a modem answer carrier to someone online.
 <N> Allows you to manually send Network Messages to other nodes. ID# is the ID# of the network node in your "n-list" that you want to manually call.
F7 Turn on Burglar Alarm. You have thirty seconds to get out the door before the alarm is triggered (see "alarm" file for more details).

2. CREATE FILE

Use this option to create a **new** file of up to 39 lines. At the "D? " prompt enter the number of the drive on which you will save the newly created file. Create the file text using the BBS editor. When editing, you will see line zero and line one. Ignore these two lines. They will not be saved with the text. These two lines are only used in the message base of the BBS. When saving text to disk, choose a file name that does not already exist on that disk. If the name already exists, the process will abort. You will have to try again. If you want to use a file name that already exists, use the "3. Scratch file" function on the Sysop Menu and scratch the original file. After scratching this file, you can create a new file that uses the scratched file's name.

3. SCRATCH FILE

Use this option to erase a file. Answer the "D? " prompt with the drive number of the file you want to scratch (erase). Enter the file name exactly. Use "SCRATCH FILE" before you recreate an existing file. You may use the "*" or "?" pattern match (WARNING: you can erase your whole disk by just putting "*" as the file name).

4. EDIT/PRINT FILE

Use this option to look at or edit an existing file. At the "D? " prompt supply the drive number. At the "? 0" prompt supply the Logical Unit number (press <return> unless you have a dual drive or a hard drive). At the "Fname?" prompt enter the file name. R/E/P means READ THE FILE/EDIT THE FILE/PRINT THE FILE. Choose one. The Edit function can only edit files that contain 39 lines or less. Use the "text editor" (see below) that is on side one of the diskette if you want to edit a file that contains more than 39 lines. The editing function works the same as in option 2 (Create File), except that lines zero and one are not ignored. You may choose to <S>ave the changed file or <A>bort back to the Sysop Menu. When you save the file it can be directed to any other disk drive. You can also use the Edit function to copy small BBS files from one drive to another.

On side one of the BBS disk is you will find a full screen word processor called "text editor". To edit long files (more than 39 lines), use "text editor" (or better yet Paper Clip or Easy Script). I recommend using a word processor to modify files easily and quickly, and to examine how the existing files of the BBS are formatted before creating your own. To properly create BBS files, surround each line of text with quotes and end each line with a carriage return. To create a blank line, put "quote space quote return" (see the section on creating files). In the Text Editor program, pressing <ctrl>h will give you a help menu. Before saving the text always use <ctrl>f to bring the cursor to the top of the screen, otherwise extra unformatted lines will be saved.

5. FEEDBACK

Use this option to read messages that users left to you in the <F>eedback section. All the feedback messages go into one file called "f". Also saved in the feedback file (f) are the names of programs that are uploaded and the name of the user who did the uploading.

"RD" in the feedback file, means that the user has received Priority mail (P-Mail) from you.

6. DIRECTORY

Use this option to read the disk directory on the drive you specify. You must also specify the Logical Unit (lu) number (lu 0 or whatever) in case you are using a dual drive or hard drive. Make sure there is a disk in the drive. If you are using the Lt. Kernal Hard Drive and you read a logical unit other than zero, you must always read lu 0 before you go back Online or the drive will stick in the other logical unit.

7. LOCAL START

Use this function to simulate what a user sees when he or she logs on. You have to enter a password to get on. Use this function to see how your "logon intro" file looks and for general testing of the board.

8. PASSWORDS

Use this option to enter a person's account into the BBS. You will be presented with these options:

- lpw Allows Sysop to add a name, password, telephone number manually (not in the "r" file).
- 2val Reads the "r" file. Allows you to validate persons who registered online. You will see their registration information and then be prompted with "Val Nxt Qt".
 - Val = Validate that person
 - Nxt = Skip that person, go on to next
 - Qt = Quit

When you respond "v" for validate you must enter the Level you want to give that user. This level was created by you using the "cfig" program and must be on your BBS file disk i.e., if you assign level 6 there must be a "t6" file on your BBS file disk. After the last user you are prompted with <R>e. If you type "r" then the "r" registration file will be reset. All info in the "r" file will be erased. If you wish to keep the registration info you can copy it to another disk. The users name, password, telephone number and access level are permanently stored in the "pw" file.

8. PASSWORDS (con't)

There is an expanded registration option in the BBS that creates a sequential file for each user. This file contains the user's registration information (the information left by the user when he/she originally registered), upload/download credits, the last date he/she called and the total calls he/she has made to the system. The expanded registration should only be used if you have a hard drive, a small number of users, or a disk drive dedicated to this function.

3fn Enter a user's name and the BBS finds the password.

4de Delete a user from the "pw" file and the "u" file.
Use to throw someone off the BBS.

5av Auto-Validates all registrations that are waiting.
Use if you are in a hurry and have 100 registrations waiting.

6qt Quit back to where you came from. The registration section can be entered from the Sysop Menu, Escape Menu or the Remote Sysop Menu.

9. CHAT RETURN

The Sysop Menu can be entered through the Escape Menu while someone is online. The Chat return will bring you back to the Escape Menu only if you have entered the Sysop Menu from online, otherwise it will not do anything. If you did any operation that resets the variables while you were in the Sysop Menu you will not be able to return to the Escape Menu either.

0. SET TIME

Use this option to reset the date and time. Time is set in military time (e.g., 8:32 P.M. is 203200), but is displayed in A.M./P.M. format. The clock routine uses the time of day clock and is very accurate. If operating at 50hz, you must set the BBS for 50hz operation in the Boot Menu (otherwise the clock will run slowly).

B. BREAK

Use this option to put the computer into the immediate mode where you can issue DOS commands to format disks, etc. Type "run" to get started again.

C. CONFIGURATION

Use this option to load the "cfig" program. Make sure to insert the BBS program disk before selecting this option.

F. FIX DEVICE#

Use this option to change the device number of your disk drives for multiple drive configurations. Please note that this function only works with 1541 type drives. I prefer using the hardware method to change the device number on a drive; it's much more convenient and reliable.

P. P-MAIL

P-mail is PRIORITY MAIL from the Sysop. The P-Mail message will appear to the user as they log on and will scratch automatically. P-mail files have the persons name in capitals with "xy" at the end. You may leave P-Mail to "all" and all users will get the message. "Allxy" will remain until you scratch it. P-mail may be left to new users.

P-Mail may also be left to a particular access level, such as "levell" or "levelz". P-Mail to all new users would be left to "level0". The word "level" must be in lower case and there should be no spaces between "level" and the access level. P-Mail to a level will remain until you scratch it with the scratch file option.

Q. QUICK ON

Use this option to log you on to the BBS with the name you enter at the prompt appearing on the bottom of the screen. The default name is "SYSOP". You are put directly at the Main Menu and do not have to go through the log on procedure. You have full access and can delete any message.

Use the quick start to get on the system fast and to leave messages as "SYSOP".

If anyone tries to log on to the board using the name "SYSOP" he or she is immediately logged off.

R. RESET

Use this option to reset the "subd" userlog and reset the statistics on the Online Screen. The number of days online will not be reset unless you reboot the system or reconfigure it from scratch. The "subd" will automatically be reset after the number of days you set in the configuration.

T. TERM

Built-in terminal program; supports the following functions:

1T = Go into terminal mode
2ON = Put phone on the hook (1650/mitey-mo)
3Off= Take phone off the hook (1650/Mitey-mo)
4B3 = Set to 300 baud

T. TERM (con't)

5B12= Set to 1200 baud

6D = ~~Punter Download~~

7U = Punter Upload

8EX = Exit to Sysop Menu

Using the built-in term mode with a 1670 modem:

- * Set Baud Rate
- * Select 1 for terminal mode
- * Use the AT (ATDT) commands to dial out
- * CLR/HOME key gets you out of terminal mode

Using the built-in term mode with a 1650/Mitey-Mo:

- * select 4 (300 baud)
- * select 2 put phone on hook
- * dial the phone manually (sorry)
- * when you hear the carrier hit 3 to pick up phone
- * select 1 Terminal mode
- * CLR/HOME key exits terminal mode

If you want to download or upload using the Punter protocol, exit the terminal mode with CLR/HOME and select option 6 or 7. Go back to terminal mode when finished with the transfer.

If you entered any AT commands with the 1670 make sure to enter an ATZ to reset the modem before putting the BBS online or strange things may happen on the BBS.

X. FILECOPY

Use this option to load the "x4" copy program. It is a single file copy program that can copy any file type. If you are using a 1571 disk drive split into two 1541s you **must** use this program to copy to or from the second side of the 1571 download disk.

THE ESCAPE MENU

The Escape Menu allows the Sysop to enter the Chat Mode at any time during a logon and provides a convenient way to move around the system. The BBS must be in the "execution" (active) mode to get to this function. The "execution" mode means that you are "on" the BBS (the mode the BBS is in when a user is using the system). To enter the Escape Menu hold down the F1 key until the Menu pops up. Sometimes the F1 key must be held down for several seconds until the Escape Menu appears. You will see the Online Screen statistics, the users name, the users password and a menu with eight choices. However, the user online will not see, except that there will appear to be a delay similar to a garbage collection (garbage collections are those pauses the computer makes to free variable storage memory).

THE ESCAPE MENU (con't)

Instead of selecting 1-8 you may press <return> to exit with no effect. The options on the Escape Menu are as follows:

1ac Gives a user full access to all BBS options.
WARNING: selecting this option will give the user access to the Remote Sysop function unless it was turned COMPLETELY OFF in the configuration and at the Main Menu. Even though the function has been turned off in these two places, a user with full access will see the <Z>Remote Sysop prompt on the Main Menu, but the system will not allow him/her to access this function. To secure your system, it is strongly suggested that you configure the Remote Sysop function OFF in the two places in the "cfg" program. The access key also gives the user extra messages and downloads. You will see some negative numbers on the bottom status line reflecting this. If you are using the expanded registration option, ten extra credits will be added to their account. After you press this key the user will be right back where he or she was.

2lv Loads one of the "t" access levels created with "cfg". Use to give special access and to test the access levels. If the "t" file does not exist the same level remains in effect. After the access level loads, the BBS returns to the Main Menu.

3off Logs user off with "Expired." message.

4aHo Puts a Derogatory Suffix after the current user's name. The user will be unaware of what is happening.

5rm Allows access to Remote Sysop Menu even if it is configured OFF.

6sy Brings you to the Sysop Menu. Use "9. Chat return" to get back to the Escape Menu. This selection is very useful if you enter the system locally and just want to get back Online quickly without having to go through the log off. You can also use this to have someone currently online log on again.

7rg Allows you to enter the registration section and validate passwords while someone is online. The user sees this procedure, so use caution. When you exit this section, you are returned to the Escape Menu.

8ch Enter the Chat Mode by holding down the F1 key until the Escape Menu appears, then select "8". To exit the Chat Mode you must type a left arrow (next to the 1 key) on a blank line all by itself and press return.

<return><left arrow><return> = Exit Chat Mode
This procedure will bring you to the Escape Menu again.
Press <return> to exit the Escape Menu.

STATUS LINES

There are three status lines; two on the top and one on the bottom of the screen.

TOP LINE

When a user is online the top line shows his/her name, password, access level and the time he/she logged on.

SECOND LINE

When a user logs on, the second line shows the date and version number of the BBS. When the <C>hat option is selected on the Main Menu, the user sees a "Why? ->" prompt. The response to this prompt goes on to the second line replacing the date and version number (so if you walk in you can see why the user wants to chat). This response also goes into the feedback "f" file.

BOTTOM LINE

This line will show the baud rate, call number, number of messages read (R), number of messages posted (P), number of uploads received (U), and number of downloads sent (R). At the end of the line is a window into the RS232 output buffer. Everything the BBS sends out is echoed in this window. During a download, Color Graphics file read, or at the Sysop Menu the RS232 output buffer window will expand to fill the entire bottom line (this way you can see all the action).

FILE HANDLING

INTRODUCTION TO FILES

This ARB Bulletin Board System uses only sequential files. All messages, bulletins and data are stored as sequential files. There are several different file types that Commodore DOS can handle. These are program, sequential, relative, user and random files. Through experience I have decided to only use sequential files in this system. Occasionally the Block Allocation Map (BAM) on a diskette will become corrupted and cross link the wrong files. Sequential files can be fixed with a word processor, relative, random, user and program files cannot. In addition, many of the compatible disk drives that are made for the Commodore 64 (and even the ones Commodore manufactures) have problems handling relative files properly. In theory, relative files are a good way to store all the information about a user. In practice, there are always too many problems. Sequential files are easier to fix and their exclusive use in this system should save the Sysop many hours of grief.

VALIDATING DISKS

It is extremely important that file disks are regularly validated. There are many saves and scratches of files occurring all the time. After many scratches the BAM may not accurately reflect which blocks are actually free. If this occurs, a new file being saved may overwrite a previous file, ruining the previous file. Validating the disk will properly re-allocate all the available blocks. Auto-Maintenance occurs at 12 A.M. and automatically validates the disk for you. DO NOT STOP THE PROGRAM IN THE MIDDLE OF AUTO-MAINTENANCE OR ELSE! You must let Auto-Maintenance happen every day so your "msg" file (contains information about who left which message, to whom the message was left and where it is on the system) is updated and the "p" file is reset. If your system is not on at 12:00 A.M., you MUST use "F3AUTO" on the Online Screen to run Auto-Maintenance before you put the system online.

LIMITATIONS

YOU MAY NOT PUT MORE THAN 144 FILES ON A 1541 DISK OR 224 FILES ON A SFD1001 DISK. Do not attempt to go beyond the limit or you may experience problems. To prevent an OVERLOAD condition, the system counts the files on each disk after each log off. If there are more than 136 files (1541) or 214 files (SFD), all posting and uploading is suspended and one extra Auto-Maintenance cycle will occur. Also, if there are less than thirty blocks free the OVERLOAD is set, and you will see the OVER message at the Online screen. If you see the OVER message, manually delete some messages. If the hard drive configuration is selected, the system will skip the file count, but will read the blocks free.

LIMITATIONS (con't)

During Auto-Maintenance, when there are more than a certain number of messages in a category, the first message in that category is automatically deleted or the second message is appended to the first (depending on how this option was configured); this keeps the number of files under control.

When there are 39 messages in a message category and a user goes to post a message in that category, the program deletes or appends a message(s) based on the instructions you gave it in the configuration. Thirty-nine (39) is the maximum number of messages a subboard can hold.

There may be up to ten categories and each category can have up to nine subboards. This limits you to 90 message subboards. You **do not** have to have the same number of subboards in each category. If you choose to have the maximum number of subboards, the number of files on one disk will exceed 144 long before all the message categories reach their capacity.

While it is possible to use all ARB Bulletin Board System functions, do not attempt to fully implement them if you are using only one or two floppy drives. Full implementation of all BBS functions should not be attempted unless you are using a hard disk drive or two.

IMPORTANCE OF PROPER FORMAT

The system uses "input#" rather than "get#" statements for speed. Each line (string) in a file must be able to be read using the input# statement. If you create your files with the built-in editor, the format of the files will be compatible with the system. If you are using a word processor (which I recommend), there is a correct way to create compatible files. If the files are not created correctly, the system will freeze (more likely the system will reset to the Online Screen due to the Error Trapping routine). When using a word processor each line must be surrounded by quotes. Each line is also a paragraph. On most word processors that means you type a <cr> (carriage return) after the close quote. Here is an example of how a file looks if it is created using a word processor.

```
*****-<cr>-  
" "-<cr>-  
"      welcome      "-<cr>-  
" "-<cr>-  
*****-<cr>-
```

To create a blank line type "quote space quote <cr>". Do not have lines without anything on them, or the file will not work. Never have two quotes next to each other. There may be up to eighty characters between the quotes. There are some other ways to create files, but this is one way that definitely works. Save the text as a sequential file, not as a program file.

IMPORTANCE OF PROPER FORMAT (con't)

Examine the existing files that came with the BBS to determine how the format should appear on your word processor. When creating file text, also keep in mind that the appearance of your BBS is determined by how well you create your files.

If using the built in BBS editor, you do not have to use quotes.

CREATING FILES

To customize your BBS so it looks different from any other BBS, modify (or create) the files that introduce the different functions. The first file users see when they log on is the "logon intro". This might read "welcome to so and so BBS etc.". Included with the ARB BBS are all the files you need to run the system. These files are only guidelines. The contents of these files can be changed to anything you want. A complete explanation of each file's function can be found in the "listing of files and their function" section. Try to make the files look good by centering text. Use stars and other symbols around the borders. Use your imagination! You may use the built-in BBS editor or any word processor to create your files.

It is very important that the names of the files are exactly as they appear on the original disk. If not, when running the program, you will see a single character (the last letter that was entered at a menu prompt), and several blank lines. The program will not crash, but something will be noticeably missing.

CREATING THE MESSAGE BASE

Use the "cfig" program to set up and name the message base categories and their corresponding subboards.

The name of each subboard is determined by what is in the "c" files. If there are three categories on the BBS there must also be a "c 0", "c 1" and "c 2". The first category is always "0" (zero). The program picks up the name of the subboards from the "c" files. In addition, there are "c intro" files that describe the categories. With three categories the system needs "c0 intro", "c1 intro" and "c2 intro". The "intro" must be on the same disk as the corresponding category e.g., "c 0" and "c0" intro must be on the same disk.

It is possible to edit the "c" category files with a word processor, but it is much better if the "cfig" program is used to create these files. Use these guidelines if you are using a word processor to create/modify a "c" category file:

- * Enter up to 9 lines, each line is the name of a subboard.
- * No extra lines are permitted anywhere in this file.

CREATING THE MESSAGE BASE (con't)

- * The first 4 characters of each line are ignored, use the format <number><period><space><space><name> for each line.
- * Follow the proper format rules with the quotes and carriage return if using a word processor.

Use the "cfig" program to set up your categories, it's much easier and fool resistant (never say "proof").

CREATING BULLETIN FILES

There are four sections on the Main Menu of the BBS that are Bulletin/Sub-menu sections. Bulletins are information files that the Sysop posts on his or her system. These are also known as "g" files. Any of these files may be appended by users in several ways. The four bulletin sections are:

1. ulletins
2. <S>ub menu
3. <H>elp
4. <M>erchandise

The four bulletin sections must be created in a specific way! For example, to set up the <M>erchandise section, the first step is to create a file called "merc intro". In this file put a list of the different bulletins you will have in this section. It could look like the following:

1. Used equipment
2. Junk
3. Disks for sale
4. Classified ads

The way this file is formatted is not as important as it is in the message category files. However, the numbers are very important when creating the next group of files. To create the corresponding file that is pointed to by the "1. Used equipment", create a file called "merc1". In the "merc1" file put all the information about the used equipment you are trying to sell. Listing 2 would be "merc2". Listing 3 would be "merc3". You can put as many as you want. After listing 9 you must use 'a,b,d,e,f,g,h, etc. The merc file for listing "a" would be "merca" (merc+a). The merc file for listing "b" would be "mercb" (merc+b). When the user selects a file, (s)he types in the number, lets say "7". The program adds "7" to the string "merc", giving you "merc7". If there is no "merc7", the program prints "file not found", and brings the user back to the beginning of the "merc intro". Here is a summary...

"Merc intro" is a numerical list of subjects.
"Merc1" contains corresponding info. Pointed to by 1.
"Merc2" contains corresponding info. Pointed to by 2.
"Mercx" contains corresponding info. Pointed to by x.

CREATING BULLETIN FILES (con't)

This works the same way for all four bulletin categories.

Any file in these four sections can be appended to (or not) by the users. This is determined by the first string in the file. (A string is a line that is surrounded by quotes and followed by a carriage return).

If the file doesn't start with an asterisk (one, two or three), then it cannot be appended.

If the file starts with one asterisk "*" then users can append up to 39 lines to that file.

If the file starts with two asterisks "**" then users can append only two lines to that file.

If the file starts with three asterisks "***" then it is an appendable **Color Graphics** file.

The Bulletin sections offer lots of possibilities, especially things like war-rooms and add a BBS number lists.

ulletins

Make your list of bulletins, and call the file "bull intro". Create each of the corresponding files calling them "bull1", "bull2", "bull3", "bull4", "bullx", "bully", etc. Start some corresponding files with asterisks to make them appendable. Make some Color Graphics if you like.

<S>ub menu

Make your list of Sub-menu things, and call the file "sub intro". Create each of the corresponding files calling them "sub1", "sub2", "sub3", "sub4", "subd", "subx", etc. "Subd" is one of the important files used by the system.

The "subd" file is a detailed daily user log that shows exactly what users did when they were online. It resets in accordance with the number of days you entered in the configuration.

<H>elp

Make your list of "help" categories, and call the file "help intro". Create each of the corresponding files calling them "help1", "help2", "help3", "help4", "helpx", etc.

The "help" files are already included in the BBS software package. You can use them as-is, or customize them to your own needs. The names of the Main Menu selections can be changed by altering the file called "menu". However the letter of the selections must remain the same. You could rename <S>ub menu, <S>igs. You could rename <M>erchandise, <M>ore bulletins. And so on. You may not change the file names such as "merc intro" or "bull intro", though.

CREATING BULLETIN FILES (con't)

The Bulletin/Sub-menu files can contain anything you want. ~~Put your list of other BBS phone numbers here.~~ Put classified ads here. Put appendable Color Graphics War-Rooms and appendable lists here. Put hints and tips or game solutions here. Anything you want.

The Bulletin/Sub-menu files can be configured to be on any disk drive including the second side of a split 1571. However, all the "macro" files must be located on the same disk drive as the Bulletin/Sub-menu files.

COLOR GRAPHICS FILES

Commodore Color Graphics (CG) files allow all the control codes such as <clr home>, color change, backspace, uppercase, lowercase, etc. to be saved or read. Normally the BBS translates the file output into ASCII so that any computer may see things "normally". In the Color Graphics mode there is absolutely no translation. This allows "tricks" that use animation files that can be viewed if the user is calling with a Color Graphics terminal. If the user is not in CG mode everything in a CG file will look like garbage.

There can be appendable Color Graphics files on the ulletins, <Sub-menu, <H>elp and <M>erchandise sections. If the first string in a Bulletin/Sub-menu file starts with three asterisks ("***") that file will be an appendable Color Graphics file. Use the program called "cg writer", which is included on the program disk, to start these CG files.

Color Graphics files can also be read from the ASCII/CG option on the download section. In this section the BBS does not translate the output of the file.

DO NOT TRY TO READ CG FILES WITH THE BBS EDITOR!

Since the CG files are **not** in the input# format (each line surrounded by quotes with a carriage return at the end) the BBS file reader will crash if you attempt to read a CG file with it. CG files may be read from the ASCII/CG download section or the Bulletin/Sub-menu sections only.

CREATING MACRO FILES

A Macro key is keystroke that replaces many keystrokes. For example, to read all the new messages on the system, you would normally press <R> to get to the categories, press <0> to select category 0, press <N> for new messages and finally <Q> to quit back to the Main Menu. You would then have to repeat this for all the categories. This can be turned into a macro that looks like this:

```
-> r0nqrlnqr2nq
```


CREATING MACRO FILES (con't)

The Macro section is set up the same way as the Bulletin/Sub-menu section. The "macro intro" contains a list of macros that you have created to assist your users. You create the corresponding macro files such as "macro1", "macro2", "macroa", "macrox", etc. Each macro file consists of only one line that contains the macro string. You can use the BBS editor or a word processor to create the corresponding macro files.

Do not create "macro0". When users select <0> on the Macro section they are prompted to enter their own macro.

The macro section **must** be located on the same disk drive on which the Bulletin/Sub-menu section was configured. All macro files must be transferred to that drive.

MOVING FILES

The "X. Filecopy" option on the Sysop Menu loads a program called "x4" (make sure the BBS program disk is in drive 8 before this option is selected). This program may also be loaded from the Boot Menu. Use this program to move files of any type from one drive to another (also supports single drive copies).

The 1571 drive can be split into two 1541 disk drives. A disk formatted in the split 1571 mode will create a disk that has 1541 formatting on both sides of the disk, except that the second side is formatted in reverse because side two spins in the opposite direction (do not turn the disk over). The first side may be read or written to as a normal 1541 disk but the second side is non-standard (due to the reverse formatting). If you are using the split 1571 mode you must use "x4" to get your files to the second side of the 1571. The following is an explanation of the prompts in the "x4" program:

1. 1541 (side 1) Use this option for a regular 1541 or to copy to or from the first side of a 1571 in the split 1571 mode.
2. 1541 (side2) This is the option to select when copying to or from the **second** side in the split 1571 mode.
3. 1571 (double sided) Use this option to copy to or from a 1571 in the 1571 mode.

ALWAYS USE THE SPLIT 1571 MODE WITH THE BBS!

There are some terrible bugs in the 1571 disk drive ROM. For instance, when a disk is validated in the 1571 mode and the computer is in the 64 mode, the disk drive will set a byte on the disk directory that causes the second side of the disk to **disappear**. Commodore has released a new ROM chip for the drive that fixes this as well as many other problems.

MOVING FILES (con't)

You can move sequential files that are thirty-nine lines or less by selecting option "4. Edit/Print file". Select the <E>dit option. Load the file from disk "a". Remove disk "a" and insert disk "b". Save the file to disk "b". This function is useful in case you ruin a file. Copy the file from your original disk by selecting "4. Edit/Printfile". Remove the original disk, insert your system disk and "save" this file to the system disk.

There are several good programs available that can copy files from one disk to another. Many of these are in the public domain.

Included on the file disk are two public domain file copy programs. They are saved as "dl1" and "dl2". "dl1" is a single drive file copy program and "dl2" is a double drive file copy program. These will copy files that are longer than 225 blocks.

It is possible to use a nibble copier for making backups of BBS file disks, but any errors on the disk will be transferred over to the backup. The Fast Hackem' fifty-six second with verify copier is excellent to use for a quick copy (every few days). Do not use the Fast Hackem' file copy, it produces disk errors.

I recommend using the "x4" program to copy all the BBS files to a freshly formatted disk at least once every two weeks.

BBS FILES AND THEIR FUNCTION

This section will give you an in depth look at the system files. These files must be present on the disk that is in drive 8 unless it was configured on another drive. If any one of these files is missing, something in the system will not function correctly. Occasionally, due to circumstances beyond your control, a file becomes corrupted (messed up). The names of files must appear exactly as listed or the BBS will not find them. Use the BBS editor or a word processor to create or modify these files. In this way you can customize your BBS.

"logon intro", "logon X"

Must be on drive 8.

This is the first file a user sees when he or she logs on to the system. Try not to make the "logon intro" longer than one screen in length. The **ARB Bulletin Board System** has many interesting features. For example, the system supports up to 255 random logon files. Every time a user calls he/she may see a different random logon intro. The "cfig" program will ask you how many random logon files you want. If you select the random logon intro option then you will need to use "logon 0", "logon 1", "logon 2", "logon 3", etc. instead of just "logon intro".

After the "logon intro" is finished scrolling, the program prints a random wait message. At this point the "cn" (call number) file is increased by one. It takes about 8 seconds for the call number to be updated.

"cn"

Must be on drive 8.

This is the call number. Every time someone calls the board (whether the log on is successful or not), the number in the "cn" file is increased by one. There is only one thing in this file. It is a number. **Do not use the BBS editor to change this file or else!** If you wish to change the call number, first delete the old "cn" file. Exit the program by selecting "B. Break" from the Sysop Menu. Type the following:

```
x=1000:open2,8,2,"cn,s,w":print#2,x:close2
```

The call number will be set to 1000. Use any number. This file is also self creating. It will automatically make itself. If you ruin your "cn" file just scratch the old "cn" file and run the BBS. A new "cn" file will appear on the diskette.

"welcome"

Must be on drive 8.

This file scrolls on the screen after the user has successfully logged on either with his password, or by typing "new". In this file you can put system bulletins, BBS policies, warnings or just "welcome again". You may put anything you like into the "welcome" file. This message may be longer than one screen and it will look okay. Use your imagination.

"new user"

Must be on drive 8.

The "new user" file precedes the "welcome" file whenever a new user logs on. This message is only seen by someone who types "new" at the password prompt. Put information in this file about registration, access to different sections of the board, how to get access to the upload/download section, etc. After the "new user" file is finished, the "welcome" file will begin to scroll.

"pw"

Must be on drive 8.

This file contains the information that allows a registered user to log on your system. The password information is stored in the following way:

```
<NAME1>
<PASSWORD1> <telephone#1> <access level>
<NAME2>
<PASSWORD2> <telephone#2> <access level>
<NAME3>
<PASSWORD3> <telephone#3> <access level>
<NAME4>
<PASSWORD4> <telephone#4> <access level>
```

The program will take care of this file for you. Each password entry is 2 strings. The first string contains the user's name. The second string contains the user's password, the user's phone number and the user's access level. The names and passwords are all translated into uppercase with no spaces between the letters. "John Smith" is translated to "JOHNSMITH" (numbers will look a bit strange but don't worry). "Pass word" would be translated to "PASSWORD". When using the "8. Passwords" option on the Sysop Menu to enter or validate registrations it doesn't matter how the information is entered, it can be in uppercase, lowercase or contain spaces. The program takes care of the translation. If you are recreating the file from scratch just copy the "pw" file that came on the BBS file disk to your present file disk. It has two strings in it, they are:

```
SYSOP
SYSOP
```


"baud intro"

Must be on drive 8.

This file instructs the user that the baud rate may be set between 300 and 500 baud. It is accessed when the <J> prompt is selected on the Main Menu. It also says that the best results come at 385 baud (some modems can go faster than that). If the user enters the baud rate but the subsequent two carriage returns are not equal to chr\$(13) the system will default back to 300 baud. If you are in the local mode with a 300 baud modem you may select 500 baud so the BBS runs faster.

"mail intro"

Must be on drive 8.

This file introduces the <E>-Mail section. E-Mail is a private messages left by one user or the Sysop to another user. Some User Groups make up a pseudo-logon name like "NEWSLETTER" or "CONTEST" so that users can leave E-Mail under those headings. A user could log on as "NEWSLETTER" to read that E-Mail file. P-Mail can also be sent through the E-Mail section if the user's access level is high enough.

"chat intro"

Must be on drive 8.

This file scrolls when a user selects <C>hat on the Main Menu. First the user is prompted with "Why? ->". The reply to this prompt appears in the second line at the top of the screen and into the feedback "f" file.

Users are only allowed to select <C>hat one time unless the Sysop enters the Chat Mode, in which case they may again request to Chat.

To enter the Chat Mode hold down the F1 key. The Chat Mode may be entered at any time whether or not the user requests it. Hold down the F1 key for as long as it takes the BBS to respond (files must be closed and statistics set up, so there may be momentary hesitation). If the "chat intro" is scrolling at the time, you will enter the Chat Mode without first seeing the Escape Menu. At any other time you will see the Escape Menu. To enter the Chat Mode, select "8" from the menu. Forty column word-wrap is in effect in the Chat-Mode.

To exit the Chat Mode you must type a left arrow on a blank line all by itself and press return. In other words:

<return><left arrow><return>

Strike <return> to exit the Escape Menu or choose any other option from the menu.

"feed intro"

Must be on drive 8.

This file introduces the <F>eedback section. It scrolls when a user selects <F>eedback or leaves E-Mail to "Sysop". It can say anything you like concerning leaving messages to the Sysop.

"f"

Must be on drive 8.

This file contains your feedback messages. Rather than each new feedback message taking up its own sequential file, all of them are stored in one file on drive 8.

Uploaded file names go into feedback along with the name of the person who uploaded the file. If a P-Mail has been received you will see the letters "RD", the name of the user who received it and the date it was received. The reasons users want to chat are also stored here. You get a good overview of what has been happening on the BBS by reading this file. Respond "y" to reset this file at the "De ?" prompt.

"f-list"

Must be on drive 8.

When a user leaves feedback his or her name and the subject of the feedback message is written into the f-list. When you go to leave P-Mail from the Sysop Menu you will see this file scroll by so you can spell names correctly. It is reset whenever you reset feedback.

"r"

Must be on drive 8.

This file contains all the new registration applications. The first line starts with an asterisk ("*"). Each subsequent registration application is 8 strings long. This file is retrieved by choosing option "8. Passwords" on the Sysop Menu and then selecting "2val". At the end of the validating process there will be a "<R>e" prompt. If you type "r" then the "r" file will be reset and all the information in it will be gone (partially transferred to the "pw" file actually). If you want to keep all the information that was stored in the "r" file you should copy it on to another disk and rename it.

If you are using the expanded registration option then all the information for each user will be stored in an individual file. Only use the expanded registration if you have a hard drive or a dedicated disk drive.

"register intro"

Must be on drive 8.

This file introduces the registration section and appears when a user selects <A>pply for access. It has a very specific format. The first seven strings of this file must contain the seven registration questions. You may reword the questions by editing this file. Do not change the order of the Name, Telephone number, and Password questions because the BBS uses these fields to create the strings for the "pw" file. Everything after the first seven lines (strings) in the file scrolls down the screen. You can type anything you like beneath the seven strings such as password verification policy, reiterate system policies, or convey any other information concerning registering. The order of the first seven strings is as follows:

Name (or Handle) (do not change order of this field)
Street Address
City, State, Zip
Telephone number (do not change order of this field)
Computer type
Age
Password (do not change order of this field)

It is okay to reword the Name, Telephone number and Password questions but make sure they remain string one, four and seven respectively.

"help intro", "help1", "help2", "helpx"

Can be configured to any drive. Goes on same drive with "bull", "merc", "sub" and "macro" files.

The "help intro" must contain a list of "help" options. The listing points to corresponding files. The file pointed to by listing 1 in the "help intro" would be "help1". Listing 2 would point to "help2". After listing 9 use a,b,c,d,e,f, etc.. Listing c would point to "helpc". Help files are included on the BBS file disk.

"bull intro", "bull1", "bull2", "bullx"

Can be configured to any drive. Goes on same drive with "help", "merc", "sub" and "macro" files. The "bull intro" must contain a listing of "bulletin" options. The listing points to corresponding files. This section is accessed when the user selects the ulletin option on the main menu. Here is an example...

Bulletins

1. System info
2. Downloading list
3. News and rumors
4. New computer releases

"bull intro", "bull1", "bull2", "bullx" (con't)

If the user choose "1", the program looks for a file called "bull1". If he or she chooses "7", the program would look for "bull7". ~~It is up to you to create the files using informa-~~tion that corresponds to the listing in the "bull intro". Create a file containing the system information and then name it "bull1".

Listing 1 - create "bull1"
listing 2 - create "bull2"
listing a - create "bulla"
listing x - create "bullx"

This feature of the bbs lets you put as many bulletin files online as you want (up to the storage capacity of the disk drive).

Any file on the <H>elp, ulletins, <M>erchandise and <S>ub-menu may be appended (added to) by the users. The appendable files may be used as the War Room, Add A BBS List, or for any other purpose. How the files will be appended to is determined by the first string of the file (the very first line in the file). Here is how it works:

Start file without an asterisk (*) for Non-appendable file.
Start file with 1 asterisk (*) for 39 line appendable file.
Start file with 2 asterisks (**) for 2 line appendable file.
Start file with 3 asterisks (***) for appendable Color Graphics file.

"merc intro", "mercl", "merc2", "mercx"

Can be configured to any drive. Goes on same drive with "sub", "help", "bull" and "macro" files.

This feature is accessed by entering <M>erchandise on the Main Menu. The name on the "menu" file can be changed, but the <M> prompt must remain <M>. It works the same as the "bull intro" and the "help intro". Make your list, and call it "merc intro". Then make the corresponding files.

Listing 1 - create "mercl"
listing 2 - create "merc2"
listing z - create "mercz"

"sub intro", "sub1", "sub2", "subx"

Can be configured to any drive. Goes on same drive with "help", "bull", "merc" and "macro" files. This feature is accessed by entering <S>ub-menu on the Main Menu. It works the same as the "help intro", "bull intro" and "merc intro".

Make your list, and call it "sub intro". Then make the corresponding files.

"sub intro", "sub1", "sub2", "subx" (con't)

One file on the Sub-menu is a very important system file that contains a detailed daily user log. The name of this file is "subd". Remember not to create any "d" file on your Sub-menu or the system will always wipe it out.

"subd"

By pressing "d" on the Sub-menu you can see the "subd" user log. Use the "R. Reset" option on the Sysop Menu if you wish to reset "subd". This file is automatically reset when the number of days chosen in the configuration to reset "subd" is reached. It contains the following information:

Name, call number, baud rate, improper log off
Date
Log off time in military time
Minutes and seconds online
Number of messages posted
Number of messages read, number of errors made
Number of times the user voted
Number of downloads, number of uploads

"macro intro", "macroX"

Can be configured to any drive. Goes on same drive as "merc", "help", "sub" and "bull" files.

The "macro intro" contains a list of pre-set macros. Do not use "macro0" because "0" is reserved as the "enter your own macro" option. Create the corresponding files such as "macro1", "macro2", "macrox", etc. Each of the corresponding macro files contains only one string such as:

r0nqr2nqr3nq

The preceding macro would read all new messages on the first three message categories.

"quiz intro", "quiz11", "quiz12", "quiz21", "quiz22", etc.

Must be on drive 8.

You can have as many quizzes as you want simply by adding the selections to the "quiz intro" and putting the corresponding files on the disk. The quiz files have two parts, the question (1) and the answers (2). The question files are made up of forty strings. Each of the twenty questions uses two strings. The answer files start as two 20 character strings containing the answers. The answer files will also contain the result strings of the users who take the quiz. To figure out what to name the quiz files, use this formula:

"quiz" + selection number on quiz intro + 1 = questions 1
"quiz" + selection number on quiz intro + 2 = answers 1

"quiz intro", "quiz11", "quiz12", etc. (con't)

In other words if you had five quizzes you would need the following files:

"quiz11" = first quiz questions
"quiz12" = first quiz answers
"quiz21" = second quiz questions
"quiz22" = second quiz answers
"quiz31" = third quiz questions
"quiz32" = third quiz answers
"quiz41" = fourth quiz questions
"quiz42" = fourth quiz answers
"quiz51" = fifth quiz questions
"quiz52" = fifth quiz answers

And so on.

"need intro", "need11", "need12", "need21", "need22", etc.

Must be on drive 8.

The "need intro" is set up pretty much the same way as the quiz intro. The <Need it section is for matching up goods and or services among users on your system. Each "need it" question file can contain up to forty questions of two strings each for a total of up to eighty strings. The first string in each question is an item, the second sting says <1>Need it <2>Got it. You do not have to have all forty questions, but in no event put more than forty or else. Each "need it" results file must start off with the words "Total number of items" as the first string and forty zeroes as the second string. The formula for naming the "need it" files is this:

"need" + selection number on need intro + 1 = questions 1
"need" + selection number on need intro + 2 = results 1

If you had three need it sections you would use:

"need11" = first quiz questions
"need12" = first quiz results
"need21" = second quiz questions
"need22" = second quiz results
"need31" = third quiz questions
"need32" = third quiz results

"vote intro", "votell", "votel2", "vote21", "vote22", etc.

Must be on drive 8.

The Voting section is set up the same way as the "quiz intro". The formula to figure out the file names for the "voting section" files is:

"vote" + selection number on vote intro + 1 = question 1
"vote" + selection number on vote intro + 2 = results 1

"vote intro", "votell", "votel2", etc. (con't)

If you had five vote questions you would need the following files:

"votell" = first vote question
"votel2" = first vote results
"vote21" = second vote question
"vote22" = second vote results
"vote31" = third vote question
"vote32" = third vote results
"vote41" = fourth vote question
"vote42" = fourth vote results
"vote51" = fifth vote question
"vote52" = fifth vote results

Each of the vote question files contains a question with six parameters for the results. It could look like this:

What is your age group?

1. Under13
2. 14-21
3. 22-31
4. 32-45
5. 46-59
6. 60 Or over

Put any questions you wish. There are six parameters for the results. The parameters are part of the file. Keep the lines of the six parameters close together so the user can see the parameters and the results on one screen.

The results go into the corresponding results files. The results files contain the voting tally of the vote questions. When starting new questions you only have to create the vote question files. The BBS will automatically create the results files the first time that someone votes. If you remove a question from the "vote intro" be sure to scratch the corresponding question and results files.

"u"

Must be on drive 8.

This file is your current user log. The "u" file is structured the same way as the "pw" file. It is intended to eventually replace your "pw" file. After a new user is validated, when he or she calls back for the first time as a validated user, the BBS adds their name and password into the "u" file. This file is **not** read when <U>serlog is selected on the Main Menu. Let us say that after two months you want to remove everyone who has not called in that period of time. First scratch the "pw" file and rename the "u" file to "pw". Then start the "u" file again by copying the "u" file that came on the original BBS file disk to the current system file disk. The "u" file must start with only two strings:

"u" (con't)

SYSOP
SYSOP

This replacement procedure will not work if the expanded registration option is being used.

The "u" file serves another purpose. When a user logs on, the system first checks the "u" file for the user's password and then checks the "pw" file if it can't find it in the "u" file. This way frequent callers can get on the system faster.

"menu2"

This file must be on every drive that contains a message base. It looks like this:

```
<V>iew msgs on THIS sub-board to you
<L>ocate All msgs to you
<X>40 Column word-wrap when posting
<Y>80 Column word-wrap when posting
<F>orward read <R>everse read
<A>ll messages <S>can messages
<P>ost message <D>elete message
<C>hange board <M>ain menu
```

Try to put it near the top of the disk directory for faster access.

"menu"

Must be on drive 8.

The "menu" file is the Main Menu of the BBS. Try to get this file at the beginning of the disk directory of your file disk by copying it first when making backups. That way it will access faster. This file contains the prompts that allow a user to find his or her way to the different sections of the board.

This file is created in a specific format. You may put new captions next to the menu prompts but you may not change the order or letter of any of the prompts. You must not add any extra lines to this file. The reason for these constraints is the user only sees the options to which he or she has access. The Main Menu will line up two across if the user is viewing the BBS in forty columns and will line up four across if the user is viewing the BBS in eighty columns. The "menu" file consists of twenty-six strings and each string is composed of exactly twenty characters (padded with spaces at the end if necessary).

Do not use the BBS editor to edit the "menu" file. Only use a word processor.

"menu" (con't)

Here is what this file looks like in a word processor:
(-<cr>- = carriage return)

(no extra space on top)

```
"<A>pply for Access  "-<cr>-  
"<B>ulletins        "-<cr>-  
"<C>hat              "-<cr>-  
"<D>ating            "-<cr>-  
"<E>-Mail            "-<cr>-  
"<F>eedback          "-<cr>-  
"<G>oodbye           "-<cr>-  
"<H>elp              "-<cr>-  
"<I>nformation       "-<cr>-  
"<J>300-500 Baud     "-<cr>-  
"<K>arma of system   "-<cr>-  
"<L>inefeeds         "-<cr>-  
"<M>erchandise       "-<cr>-  
"<N>eed it           "-<cr>-  
"<O>ther System      "-<cr>-  
"<P>assword Change   "-<cr>-  
"<Q>uizzes           "-<cr>-  
"<R>ead Message Base "-<cr>-  
"<S>ub-Menu          "-<cr>-  
"<T>ime              "-<cr>-  
"<U>ser Log          "-<cr>-  
"<V>oting Questions  "-<cr>-  
"<W>rite Macro        "-<cr>-  
"<X>Downloads        "-<cr>-  
"<Y>Utility Download "-<cr>-  
"<Z>Remote Sysop     "-<cr>-
```

"dl", "dl1", "dl2", "dlx"

These files must be on the drive(s) configured for the <Y> File download sections. For each access level, there may be two of these sections on two different drives.

The "dl" file could look like this:

```
1. 4 Minute copy      pgm    11 blocks  
2. Super med          seq    112  
3. Mind probe         pgm     54  
4. D14                seq     21  
5. D15 *****  
6. D16 * call the download names *  
a. D1a * anything you like in *  
b. D1b * this 'dl' file. But you *  
c. D1c * must rename the actual *  
y. D1y * file names on the disk. *  
Z. D1z *****
```

The "dl" file is accessed by selecting <Y> on the Main Menu. You must put this file on the drives that were configured for the <Y>File downloads. You must also put the download programs on that drive and rename them as shown above.

"dl", "dl1", "dl2", "dlx" (con't)

If you select "3" the BBS looks for a file named "dl3". Select "n" and it looks for "dln" etc. The "dl" file points the way to the renamed download program. The extension after "dl" can be up to three characters long such as "dl999", "dlabc", "dlxyz" for about 40,000 possible file names.

There are two download options on the Main Menu. If you select <Y> then you are using the "dl" file download mode. If you select <X> you are using the mode that will read the whole disk directory. When using only one drive use the "dl" file mode instead of the whole directory mode so a user will not be able to download your password file. You can use either mode or both modes. You may also have "dl" file downloads on an <X> Directory download disk.

"ul"

The "ul" file is created by the system automatically on the upload disks. It contains the descriptions that users provide for the files they upload.

Optionally, "ul" files can be created by you and placed on the <X>Directory Download drives as a general or detailed description of what that disk contains.

"msg"

Must be on drive 8.

During Auto-Maintenance the "msg" file is created. It contains information about who left which message to whom and where it is. The "msg" file is accessed during logon after the "Search" message. It is also accessed from the message base by choosing "<L>ocate all msgs to you". It is very important to let Auto-Maintenance occur once per day so that this file is updated. To recreate this file, you can manually toggle Auto-Maintenance by selecting "F3AUTO" from the Online Screen.

"mml"

Must be on drive 8.

This file contains the <D>ating questions. This file is composed of forty strings with each question consisting of two strings. Each question must have five possible matching choices. The first question is very important because it will match the users accordingly. You may change the wording to suit your local area. The rest of the questions may be changed. There are twenty questions with five possible responses per question.

The dating files "mml", "mm2" and "mm3" must be on drive 8.

"mm1" (con't)

When <D>ating is selected on the Main Menu, a validated user can fill out a questionnaire of 20 sets of five questions. After the questionnaire is filled out the matching option can be chosen.

If a user fills out more than one questionnaire the last one filled out will be the one used when he or she looks for a match. The other ones he or she filled out will still show up on other people's matches. Sometimes a male will select the <F>emale response. Oh well.

You may edit the "mm2" file from time to time to shorten it. You may change the "mm1" file questions, but not the first one (you may paraphrase though). The first question determines who is matched with whom.

Males match with females.

Females match with males.

Male gays match with male gays.

Female gays match with female gays.

Bi matches with everyone but only Bi matches with them.

Some Sysops use one of the message categories as an adult board or dating board. Some charge a small fee for access.

"mm2"

Must be on drive 8.

This file contains the results of the questions asked in the "mm1" file. It starts with just two strings:

*
*

Each entry is two strings. The first string contains the person's name. The second string is a twenty digit number that represents their response to the questions. You can edit the "mm2" from time to time with a word processor. Make sure you don't mix up the name/results order by adding or subtracting an odd line.

"mm3"

Must be on drive 8.

Contains a paraphrase of each of the questions in "mm1". There are twenty lines in this file. The first line must say something to the effect:

You have the following in common:

This file is accessed when the user selects <I>nfo in the dating section. Make sure that the lines correspond to the lines in the "mm1"

"arb"

Must be on drive 8.

This is a detailed description of the BBS software. It tells about all the main features of the ARB BBS. It is accessed by selecting <I>nfo on the Main Menu.

"remote"

Must be on drive 8.

This file describes the Remote Sysop functions. It is accessed from the <Z>Remote Sysop option on the Main Menu. This option should only be open to someone you trust (preferably no one). There is a double protection in the configuration. For this option to be on it must be turned "on" in the configuration and the <Z> on the Main Menu must also be turned "on". This option may also be accessed from the Escape Menu by selecting "5". The Remote Sysop option is for drive 8. The following are the options:

1. Read file
2. Create file
3. Append file
4. Disk Directory
5. Passwords

Be very careful to whom you give Remote Sysop access. He/she could do a lot of damage to your system with this option. Although the Remote Sysop can only access drive 8, this is where most of the important system files are located. To give access to other drives, make an access level that allows uploading and downloading to the drive that you need to access remotely.

"sys"

Must be on drive 8.

This file provides you with a very detailed poke by poke system configuration read out. Contains 289 strings corresponding to the functions of peek(735) to peek(1023). This file is accessed by the <K>arma of system option and is also used by the "cfig" program.

"wait", "wait X"

Must be on drive 8.

The "wait" file contains ten "please wait" phrases, ten "error" phrases and seven "day of the week", phrases in that order. The BBS uses a random message system to prompt the users. They are loaded into memory when the BBS goes to the Online Screen.

To completely confuse your users you may also have up to 255 of random wait files. In that case you would need to create "wait 0", "wait 1", "wait 2", etc. instead of just "wait".

"p"

Must be on drive 8.

This file is a list of users who called that day. New users get a "+" in front of their name. This file is used to limit the number of calls allowed per day. The "p" file is reset each night at Auto-Maintenance.

"c-list"

Must be on drive 8.

Contains the list of BBS message categories. The BBS may have up to ten categories (0-9). Each category may contain up to nine subboards. You do not have to have the same number of subboards in each category. The structure of this file is very important. There may be no extra lines in this file. Use the "cfig" program for fool-resistant (never say proof) results when creating your "c-list".

"c 0", "c 1", ... "c 9"

Can be configured to the first side of any drive (drive 0 on a dual drive, first side of split 1571). Each category may be configured to any drive independent of where any other category is configured.

The "c" files contain the list of subboards. Each category has a "c" file. The first category is "c 0". The highest possible category is "c 9". You do not have to use all nine categories, and unless you have a hard drive you probably should use only three or four. The structure of the "c" files is critical. The filenames that the BBS gives to the messages are derived from what is in the "c" files. There may be no extra leading or trailing lines or lines in between the subboard strings. The first four characters of each string is ignored. This is the format:

(no extra lines)

1. Commodore64
2. Atari
3. Macintosh
4. MS-DOS
5. Classified ads
6. Hardware sig
7. User groups
8. Beginner's corner
9. Other computers

(no extra line at end)

There can be less than nine. Notice that the first four characters of each string are <number><period><space><space>. The BBS cuts off the first four characters and then uses the next eight (or less) characters to name the file on the disk. Messages left on the "1. Commodore64" subboard are saved with "Commodore" as a prefix.

"c 0", "c 1", ... "c 9" (con't)

Do not use the BBS editor to make your "c" files because the BBS editor substitutes chr\$(160) for chr\$(32) spaces. Any files with chr\$(160) in the filename will have characters outside the quotes on a disk directory. This makes them very hard to copy.

ALWAYS USE THE "CFIG" PROGRAM TO CREATE YOUR "C-LIST" AND "C 0" - "C 9" FILES. That method is fool-resistant.

"c0 intro", "c1 intro", ... , "c9 intro"

These files must go on the drive that their corresponding categories go on.

The "c0 intro" describes category 0 ("c 0"). "c3 intro" describes category 3 ("c 3"). These files introduce a category and can be created with the BBS editor or a word processor. After the user selects a category from the "c-list" the corresponding intro file scrolls on the screen. Make sure the intro files are on the same drive as their corresponding category files. It could look like:

```
-----  
ADULT BOARD SECTION  
-----
```

The structure of the intro files is not as critical as the "c-list" or "c" files.

"n-list", "n2-list", "id"

Must be on the drive that contains the networking subboards. These files control access to the Automatic Message Forwarding feature of the BBS. See the chapter on Automatic Message Forwarding for details on these files.

"alarm"

Must be on drive 8. Feature can only be used with CBM 1670 modem.

The ARB BBS has a built in **Home Security Burglar Alarm**. The alarm is triggered when the joy stick fire button on control port is pressed down. Be very careful not to blow out your CIA chip if you wire your own connector. The alarm is set with "F7ALARM" from the Online Screen.

You have thirty seconds to get out after you press F7. After thirty seconds ALARM ON appears on the screen. After you re-enter the house you'll have thirty seconds to hold down the F1 key or the "alarm" file will execute. Going to the Sysop Menu from the Online Screen will turn off the alarm.

"alarm" (con't)

DO NOT USE THIS AS A PRIMARY ALARM SYSTEM!!

ARTHUR BROCK ASSUMES NO LIABILITY FOR ANY LOSSES OCCURRING FROM A FAILURE OF THIS SYSTEM. IT IS UP TO YOU TO DETERMINE SUITABILITY FOR ANY PURPOSE.

The first string of "alarm" must be a phone number that the BBS calls if the alarm is triggered. The BBS will attempt to call out three times. In addition, if someone is on the BBS when the alarm is triggered he or she will see the "alarm" file and will be immediately logged off. If he/she was transferring a file, the file transfer will be interrupted. (In that case the user may **not** see the "alarm" file.) The "alarm" file should say something to the effect that the Sysop's house is being robbed and to please call a certain number. If you are at work and you get three phone calls in a row with no one is on the other end, that is the cue.

"FILENAME++"

Located on drive that the category containing that subboard is configured to.

The ++ files are files that the program creates. These files contain information about the messages in each message subboard.

When the user chooses the subboard (s)he wishes to access, the program loads the corresponding ++ file into memory. The ++ file contains the Msg#, From, To, and Title. This information points to the sequential file which actually stores the message text left by the user. If a ++ file is scratched, it will appear that there are no messages in that subboard. To scratch a subboard, scratch the ++ file and its corresponding files.

When a user chooses a subboard, the program picks up the first 8 characters of the subboard name, if you created the subboard name correctly (num, period, space, space). It ignores the first 4 characters of the string ("num, period, space, space"). If the wrong spacing is used, the subboard name may start with a period or have the first letter chopped off.

Sometimes you may notice part of the subboard name is outside the quotes in the directory. This indicates that the subboard was created by the BBS editor, which turns all spaces into chr\$(160). If a program is saved with a shift space (chr\$(160)), anything after the shift space will appear outside the quotes. This will not occur if the "cfig" program is used to create your subboard "c" files.

"FILENAME 1"

These files are written to the drive(s) that contain the categories and subboards. These files are the messages that are ~~created by the system after a user chooses the <S>ave option~~ to save a message. The "FILENAME" is the name of the subboard. The "FILENAME" consists of first 8 characters of the subboard name. The number following the file name is the message number. If part of the message name is outside the quotes in the directory, then you did not follow the previous directions about using the "cfig" program to name the subboards. Scratch the ++ file and the corresponding "FILENAME" files, if you remove or change the name of a subboard in the category files. This will free file space on the disk.

Always validate your disk after doing any big scratches. Better yet copy all the remaining files on to a freshly formatted floppy.

"USERNAMEx"

Always located on drive 8.

This file contains E-Mail to the person whose name appears as the file name. It always end with "x". To save space, all E-Mail to one person goes into one file. This file is created when the first E-Mail message is sent to that person. If the person empties his or her mail box, the file is scratched. When a user successfully logs on, the program checks to see if he or she has E-Mail by checking if this file exists.

"USERNAMExy"

Always located on drive 8.

Files that have the "xy" at the end are P-Mail messages from the Sysop. These are scratched as soon as they are read.

If you leave P-mail to "all" then the file will look like "ALLxy". This is not be scratched after being read. You must scratch "ALLxy" when it is no longer wanted. If you leave P-Mail to a level like "level0" the file will look like "level0xy" on the disk directory. Type the prefix "level" in lowercase. Do not leave a space between "level" and the access level to which you wish to leave P-mail.

"USERNAME"

The expanded registration files can be configured to any drive and logical unit. If the BBS is configured for expanded registration files, each user gets his/her own sequential file. You will need a hard drive or a dedicated floppy drive to use this feature successfully. The expanded registration files contain the user's registration information,

"USERNAME" (con't)

i.e., access level, last date on system, total number of times on system and upload/download credits. The BBS still writes the "pw" file and the "u" file even if the BBS is using the expanded registration.

The following is very important:

IF YOU ARE USING THE EXPANDED REGISTRATION THEN EVERY ACCESS LEVEL YOU CREATE MUST HAVE THE EXPANDED REGISTRATION OPTION CONFIGURED "ON".

IF YOU ARE NOT USING THE EXPANDED REGISTRATION THEN EVERY ACCESS LEVEL YOU CREATE MUST HAVE IT CONFIGURED "OFF".

Do not try to mix expanded registration on or off from access level to access level; it will not work.

NOTES

MAIN MENU FUNCTIONS

MAIN MENU OVERVIEW

The "menu" file is the road map of the BBS. This is how users find their way around the system. You may alter the appearance of the "menu", but you may not change the letters or order of the prompts. For example, <M>erchandise could be altered to read <M>ore solutions. The format of the "menu" file is critical (see "menu" in listing of files section). There are twenty-six strings in the "menu" file. Each string must be exactly twenty character long. Here is how the "menu" file looks on the BBS:

>Menu

<A>pply for Access	ulletins
<C>hat	<D>ating
<E>-Mail	<F>eedback
<G>oodbye	<H>elp
<I>nformation	<J>300-500 Baud
<K>arma of system	<L>inefeeds
<M>erchandise	<N>eed it
<O>ther things	<P>osted things
<Q>uizzes	<R>ead Message Base
<S>ub-Menu	<T>ime
<U>ser Log	<V>oting Questions
<W>rite Macro	<X>Downloads
<Y>Utility Download	<Z>Remote Sysop

Users only see the options to which they have access. Each item on the Main Menu may be configured on or off, or off at a certain time of day through the "cfg" program. Each access level sees only what you have defined for that level.

FUNCTIONS OF EACH SELECTION

This section is a duplicate of the <H>elp files that are included on side two of the distribution diskette. I have included the names of the files that are accessed to give the Sysop a better understanding of the BBS program and its operation.

<A>pply for access

Allows new users to fill out the registration application. Accesses the "register intro" file and writes to the "r" file.

ulletins

Allows user to access the bulletin section. Accesses the "bull intro", "bull1", "bull2", "bullx" files.

<C>hat

Allows direct communication between user and Sysop. Accesses the "chat intro" file. F1 engages Escape Menu at any time. Chat mode is entered by selecting "8" on the Escape Menu. To exit the chat mode type a left arrow (next to the "1") on a new line all by itself and press <return>. In other words to exit the Chat Mode presss <return><left arrow><return>. Then to exit the Escape Menu press <return>.

<D>ating

Allows user to access dating section. Users are matched according to preference by percentage. Accesses the "mm1", "mm2" and "mm3" file. Contains twenty questions with five choices.

<E>-Mail

Allows user to access E-Mail section. Reads the "mail intro" file. Reads or creates "USERNAMEx" files. P-Mail may be left through this section if the user's access level has been configured for this option.

<F>eedback

Allows user to leave a private message to the Sysop. Accesses the "feed intro" file. Reads and writes to the "feedback" files. Adds name to "f-list".

<G>oodbye

When a user is ready to log off, he or she selects this option. After the log-off, the "subd" userlog is written to (except new users) and the number of files and the blocks free on drive 8 and on each disk containing a message base is counted. An overload flag is set if there are more than 136 files on a 1541 disk drive, or more than 216 files on an SFD1001 drive. If an overload is detected the BBS will do one extra Auto-Maintenance in an attempt to remove the overload condition. Then a "wait" file is loaded into memory and the BBS goes back Online Waiting for a Call.

<H>elp

Allows user to access the help files. Accesses the "help intro", "help1", "help2", "helpx" files.

<I>nformation

Accesses "arb" file.

<J>300-500 Baud

Allows user with 300 baud modems to increase modem speed up to 500 baud. Most modems will work fine up to 385 baud. Some can go faster.

<K>arma of system

Very detailed poke by poke BBS configuration reference guide. Accesses the "sys" file. Useful for debugging a level.

<L>inefeeds

Allows user to add an extra chr\$(10) at the end of each line. Some terminal programs need an extra linefeed.

<M>erchandise

Allows user to view the merchandise section. Accesses the "merc intro", "merc1", "merc2", "mercx" files.

<N>eed

Users can match goods and services that they have or need. Accesses the "need intro", "need11", "need12", etc. files.

<O>ther system

Loads a program called "mod1". Reserved for such features as online games and multi-user network Chat Mode. Give the users a choice and run both ARB and C-NET (Hahahaha).

<P>assword change

Users who want to change their password must fill out the registration questionnaire again.

<Q>uizzes

Allows the user to take twenty question quiz and gives the results. Accesses the "quiz intro", "quiz11", "quiz12", etc. files. Each question/answer must be two strings long.

<R>ead Message Base

Accesses the BBS message bases. Uses the following files: "c-list", "c0 intro" - "c9 intro", "c 0" - "c 9", "menu2", "FILENAME++", "FILENAME 1" files.

<S>ub-menu

Allows user to access the Sub-menu. Accesses the "sub intro", "sub1", "sub2", "subx" etc. files. Must contain the "subd" userlog file.

<T>ime

Prints the date and time, how long the user has been online, the ARB BBS version number and copyright notice.

<U>serlog

Prints the names of the current registered users of the BBS. Accesses the "pw" file, but does not print the password string.

<V>ote

Allows users to vote on one or more questions. Each question has six possible answers. Accesses "vote intro", "votell", "votel2", etc. files. The result files will create themselves if you create a question file. If you scratch a result file then the results reset to zero.

<W>rite Macro

Input a series of keystrokes in one string, sit back and watch the BBS execute each keystroke automatically. Write your own or use pre-set ones. Accesses "macro intro", "macrol", "macro2", "macrox", etc.

<X>Download/Upload

Allows user to access the uploading/downloading section. Reads downloading disk directory. Can have up to twelve drives or hard drive. Supports X-modem, Punter, Multi-file Punter, ASCII/CG and Multi-file ASCII/CG protocols.

<Y>File Downloads

Accesses download listing in "dl" file. If user selects "6", then system looks for renamed download file "dl6". Does not read entire disk directory.

<Z>Remote Sysop

Allows user to manipulate the files on the BBS and validate passwords. Be careful with this one! Can access the "remote" file and any other file on drive 8.

UPLOADING AND DOWNLOADING

PROTOCOL

The ARB BBS uses Punter C1, X-modem and ASCII/CG protocols. The BBS also supports Multi-file Punter and Multi-file ASCII transfers. These protocols were chosen because of the wide availability of public domain terminal programs using them. Punter C1 is faster than X-modem. It works at 300/1200 baud, 8 bits, no parity, and 255 byte blocks.

To abort a Punter C1 protocol transfer in progress hold down the Commodore (C=) key.

Punter protocol only works for the Commodore/64 or 128. X-modem will work with any brand of computer. It is possible to store IBM, APPLE or any other type computer file on your Commodore drive using X-modem. These (program) files will not run on a Commodore computer. If they are downloaded by the right computer they will run on that computer. ASCII/CG is for reading sequential files (like "docs"). ASCII files uploaded using X-modem by any brand of computer can be read on your Commodore. The ASCII/CG downloading option will also allow users to view Commodore Color Graphics files.

The Multi-file ASCII/CG downloading is useful for reading several files in a row. I use this option to transfer text files from my Commodore to my IBM or Macintosh. I call the BBS with my IBM, open the buffer on the Term program, and retrieve all my Commodore text files using Multi-ASCII/CG.

There are many public domain Terminal Programs (hundreds) that are compatible with this BBS. Users will have no trouble finding a compatible terminal program.

SETTING UP FOR DOWNLOADING

If using only one disk drive use the <Y> "dl" file download mode only, so the "pw" file cannot be downloaded. If you have uploading with only one drive watch the situation carefully. If you are using more than one drive it is very easy to set up for downloading. All you do is configure the drive and put in the download disk. That's all there is to it. The program transmits the entire disk directory of the download disk (the configuration supports up to twelve <X>Directory Download drives). The user types the name of the program to be downloaded or replies "yes" or "no" if using the Multi-file download option. Do not put anything except public domain programs in the downloading section!

Each <X>Directory Download drive can have a "ul" file on it. The "ul" file can contain a brief description or a detailed description of what is contained on that drive. It is optional. On an upload drive the "ul" file will be automatically created and appended to with the user's upload descriptions.

PUBLIC DOMAIN PROGRAMS

It is illegal to transmit copyrighted software through the downloading section. You may only transmit public domain software. Public domain software is software that the author makes freely available to the public, waiving any claim of copyright. Several large computer information networks have extensive data bases of public domain programs that they let you access for a fee. Another source of public domain programs is user groups. Some companies sell disks with ten or twenty public domain programs on them for less than five dollars. You can also leave a message to your users, requesting that they upload public domain programs, which you can add to your download section so that all may share them.

Under no circumstances should you violate the copyright law! You could be liable for a \$50,000 fine and imprisonment.

DO NOT POST ILLEGAL TELEPHONE ACCESS CODES OR ILLEGAL CREDIT CARD NUMBERS ON YOUR BBS EITHER! You could go to jail for doing that.

USER ACCESS TO DOWNLOADING

As the Sysop, you determine who gets access to the downloading section. You may decide to charge a small fee to users who wish to subscribe to the downloading section. If you do charge, you will be expected to provide good public domain programs. If you decide not to charge, you may establish criteria by which users can access the downloads. For instance, users who log on frequently could be rewarded with access. Perhaps you will let only your friends have access. It is up to you to set the guidelines.

For multi-drive systems you may charge for the <X>Directory Downloads but allow all users to download something from the <Y>File download ("dl" file).

The BBS also supports an upload/download credit system when expanded registration option is used. You cannot configure some levels with the expanded registration option and some levels without the expanded registration option. If you use the expanded registration option, you **MUST** configure all access levels for it. Only use the expanded registration if you have a hard drive or are willing to dedicate an entire drive for that purpose. When using the expanded registration option, the number of validated users your system can accommodate is limited to the number of files that can be held on the drive that contains the user files.

If the BBS is not using the expanded registration option, the number of users your system can support is virtually unlimited (approx. 1000 per 50 blocks of "pw" file).

MULTI-FILE DOWNLOADING

Multi-file Punter and Multi-file ASCII/CG downloads are supported on the BBS. The user can select which programs to download with "Yes/No/Quit" prompts. The system will only allow up to the download limit that was set in the configuration or up to thirty files at a time. It will also check the time limit between files and terminate the session if the time limit has been reached.

Even if the user does not have a Multi-file terminal the function can be used. The user can keep going to his or her "receive" option manually.

There are a couple of dialects of Multi-Punter transfer. It is possible that some Terminal programs may not function correctly using Multi-file transfer. Oh well.

MANAGING UPLOADS

If you have uploads on your message disk you must not scratch them off the disk. If you wish to remove the uploads start with a freshly formatted disk and file copy the individual BBS message files to the new disk. Then you can deal with the uploaded files. If you scratch two-hundred block files from a disk eventually files may "mysteriously disappear" or cross link with other files.

It is always best when making backups to use a file copy program to copy each BBS file to a freshly formatted disk rather than using a nibble copy. The nibble copy will also transfer any disk errors that may be present on the source disk.

MAKE BACK-UP COPIES OF YOUR BBS FILE DISKS REGULARLY.

SETTING UP FOR NETWORKING (con't)

You must coordinate sub names and passwords with the other members of your network. The names must start with a hyphen (-) and must be exactly eight characters including the hyphen. For example:

-Steve's

The name of the sub (-Steve's sick system) can be longer than eight but the **name and password** in the "n-list" or in the "n2-list" must be exactly eight characters.

Upper case, lower case and spaces count, unlike the regular passwords system.

NETWORK PROTOCOL

The network protocol works like this:

A user leaves a message in a sub that starts with the hyphen (-). A poke corresponding to the sub's ID Number is set to one. At 3:00 A.M. the BBS checks network pokes and proceeds to try to call all the nodes that have messages to be sent. It will attempt to call each node on the list (it uses the "n-list" to find the phone number). It will try every ten minutes to call out, accepting incoming calls in between calling out. If the other node is contacted the caller immediately goes into the punter transmit mode, transmitting its "id" file. The receiver sees the "googoogoo" and goes into the receive mode. The "id" file is received onto the network drive and is renamed ".id". The caller then assembles the "--" file from the "++" file and immediately starts sending it. The receiver checks the ".id" file against the "n-list" or the "n2-list". If the name and password are not in either file, the receiver hangs up. If the name and password are valid, the receiver goes into the Punter receive mode to receive the "--" file which it renames "..". Next the receiver merges the ".." file with the "++" file and figures out how many message files it needs to receive. In the meantime, the caller starts sending the message files out. After all the message files are sent, sender and receiver switch roles and do the same thing again. The flag pokes are set to zero and both sides hang up.

MANUAL NETWORK SEND

At anytime of day if you wish to send to one specific node select the "<F5>SEND" option in the Online mode. At the <C>ar <N>et prompt select <N> for network. Enter the ID number of the node you wish to send to. It will send even if the flag poke is not set on. During the Auto-dial the F1 key will abort the function and reset the flag pokes to zero.

AUTOMATIC MESSAGE FORWARDING

EXPLANATION

The ARB BBS can call out to nine other systems (nodes) in a network. There can be up to ninety incoming network nodes. A user may leave a message on one of the nodes and it will automatically transfer to the target system. The transfer occurs between the hours of three o'clock and five o'clock A.M. or can be initiated at any time by selecting the "<F5>SEND" option when the BBS is Online waiting for a call.

The network option may only be used with a CBM 1670 modem.

SETTING UP FOR NETWORKING

The configuration program will ask if you want networking. Answer "yes". Next you are asked for the number of the drive where the network subboards are located. Select the same drive number that holds the message bases that will have the networking. For instance, if you wish to have network subboards in category two ("c 2") and category two is located on drive ten, then when selecting which drive for networking answer "10".

You may have network subboards in any message category ("c 0" - "c 9") as long as the categories are on the drive you selected for networking.

A network sub must start with a hyphen (-). Here is an example of a "c 1" file with some network subs:

```
"1.  Macintosh"
"2.  -Treasure chest"
"3.  Amiga"
"4.  -Time tunnel"
"5.  Ibm sig"
"6.  -Arb bbs system one"
```

Of the preceding "c 1" file, the ones that start with the "-" are network subs. The first eight characters (including the hyphen) are very important. These must correspond to the name of the incoming network's logon name which is contained in its "id" file.

Do not start any subboard names with the hyphen unless it is on the drive configured for networking, OR ELSE!

Use the "cfig" program to make the category "c" files. Use the "network setup" program to create the "n-list", "n2-list" and "id" files. Answer all the questions in the program. Make sure that the network sub disk is in the drive.

Very important! The "n-list", "n2-list" and "id" files must be on the drive that was configured for the network.

"n-list"

This file must be on the drive that you configured for the network boards. It contains the list of nodes that your BBS calls. It has the following structure:

```
"total number of nodes (1-9)"-<cr>-  
"-name111"-<cr>-  
"password"-<cr>-  
"telephone number"-<cr>-  
"ID number (1-9)"-<cr>-  
"*"-<cr>-  
"-name222"-<cr>-  
"password"-<cr>-  
"telephone number (1-9)"-<cr>-  
"ID number"-<cr>-  
"*"-<cr>-
```

It contains the information about the other nodes in the network. You must coordinate this with the other members of the network. The name must start with a hyphen and be exactly eight characters. Additionally, the password must be exactly eight characters in length. All the strings are enclosed in quotes. Use the "network setup" program to create this file.

"n2-list"

Must be on the drive that was configured for the network boards.

Contains a list of nodes that call your system. When your system is the receiver your BBS first looks at the "n-list" for a name and ID. If it is not found then the BBS looks at the "n2-list". The "n2-list" allows unlimited networking. The "n2-list" format looks like this:

```
"-name001"-<cr>-  
"password"-<cr>-  
"-name002"-<cr>-  
"password"-<cr>-
```

The name is the first eight characters of the subboard. The password must always be eight characters. Use the "network setup" program to create this file.

"id"

Must be on the drive that was configured for the network boards. Use the "network setup" to create this file. It contains the name of your BBS and its password. Must correspond to the "n-list" entry and subboard name on other network systems that contact yours. The format looks like this:

```
"-Namebbs"-<cr>-  
"PaSsWoRd"-<cr>-
```

SYSTEM SUPPORT PROGRAMS

Make sure that you load the support programs through the Boot Menu or Sysop Menu (if applicable). This allows the machine language drivers and system vectors to initialize.

boot

The Boot Menu of the BBS. Use this to load all other support programs for the BBS.

arb bbsXXX.X (basic source code)

arb bbs (compiled version)

On the program disk are two versions of the ARB BBS. One is the basic source code. One is the Blitzed! (compiled) version. Only run the compiled version.

ad50

BBS Machine language at \$c000

tl

Access level one. The BBS needs a "tl" file on the disk to boot. Make sure that you have saved the "tl" file to the backup BBS Program disk you made. If you didn't save your "tl" to the program disk then it is possible the modem type in the configuration will be wrong and the BBS will not answer the phone

kl

Machine language that loads alternate Kernal into memory.

cfig

When you access the "C. Configuration" section on the Sysop menu the BBS will load in a program called "cfig". This is also option 1 on the Boot Menu. This program allows you to set the system configuration and save it.

bbs file reader

The files on the bbs are accessed by input# rather than get# statements. This is the reason for the quotes around the text. When you use a word processor to create the BBS files run them through this program to see if they were properly formatted. If the program does not stop, they are properly formatted. If the program freezes, you forgot a quote or made another errors and will have to fix it.

test/print files

This program will run through the BBS file disk and send to the screen and/or a printer all files that come on the distribution disk. Use it to see if the files on the disk you modified are properly formatted. If the program freezes, you found a bad file.

arb converter

The arb converter will convert any sequential file to BBS format with the quotes around each line.

u/l renamer

Removes period in front of upload file names if you are using the "users can't download the uploads" option.

instructions

Last minute changes in the distribution disk or **ARB BBS** program that you need to be aware of.

x4

File copy program. Must use this to get files to the second side of a split 1571.

pw editor

Edit passwords. Say "yes" or "no" to contents of entire "pw" password file. Make sure there is room on the disk equal to the length of the "pw" file when using this program.

network setup

Use this program to create the "n-list", "n2-list" and "id" file necessary for Automatic Message Forwarding (networking).

autostart

Boots the BBS off a hard drive when power is restored after a power loss. The time and date will not be correct.

text editor

Full screen text editor word processor. Use to create/edit BBS files. Don't forget to surround each line with quotes. Use <ctrl>f to home the cursor before saving a text file. Use <ctrl>h to see help menu in this program.

v-converter

If you are running an older version of **ARB Bulletin Board System**, this program will rename your BBS files so that they will work with the current version of the BBS program.

read all

Reads all sequential files on BBS disk in input format. Skips Color Graphic files. Use to find a bad file.

cg writer

Use to create Color Graphic files for your Bulletin/Sub-menu sections. Automatically writes the three asterisks "****" as the first line of the file.

arbterm64

Also on the program disk is the arbterm64 terminal program. It works with several types of modems. The program runs in basic (the important parts are in ml) and should not be Blitzed! To add your own BBS numbers to arbterm64 enter them into the first 40 lines of the program, then resave the program. You may want to file copy arbterm64 and its files (a,b,c,d) to another disk so you will have room to save your modified version.

CONFIGURATION STRATEGIES

MODEMS

The ARB BBS will work with a variety of 300/1200 baud modems. These fall into several categories:

CBM 1650 compatibles:

- *1650
- *Westridge
- *Total Telecommunications
- *Microbit 1064
- *Master Modem
- *Taihaho

Mitey-Mo compatibles:

- *Mitey-Mo
- *CBM 1660 (newer model with carrier detect)
- *Hes II

CBM 1670 compatibles:

- *1670
- *Anchor 12 (not the 6480)
- *Hayes 300/1200
- *Avatex 1200

The CBM 1670 is an ideal modem for running the ARB BBS. It would be my first choice.

If you are using the Avatex 1200 use the Omnitronix RS232 interface. Set the interface for modem 1 and modem 2. Set the third switch to the inverted position. Set all the switches on the Avatex 1200 to the up (off) position, except for switch 6 which is set in the down (on) position.

For a Hayes 1200 modem with an Omnitronix interface, set all dip switches on the modem up except for switch 3, which is set down. All switches on the Omnitronix interface are up.

SAMPLE DRIVE CONFIGURATIONS

Here are a few possible set-ups for several drive combinations:

One 1541

uploads off
directory downloads off
"dl" file downloads on drive 8
three categories with three subboards for a total of nine

Two 1541s

uploads on drive 9
directory downloads on drive 9
"dl" file on drive 8
three categories with three subboards for a total of nine

LT. KERNAL HARD DRIVE

This twenty megabyte hard drive by Xetec, Inc. is ideal for running the ARB BBS. This is the drive I use to run ARB BBS SYSTEM ONE. I have it partitioned in the following way:

<u>Logical Unit#</u>	<u>Beginning Cylinder</u>	<u>Number of Cylinders</u>
DOS (10)	0000	30
0	0030	120
1	0150	30
2	0200	50
3	0250	50
4	0300	50
5	0350	100
6	0450	30
7	0480	30
9	0510	86

The drive can be partitioned into eleven logical units (0-10). Each logical unit can contain up to 4000 file entries. The ARB Bulletin Board System supports the Logical Unit structure of the Lt. Kernal. Here is an example of where to put the BBS files:

Logical Unit 0	All system files
Logical Unit 1-7	<X>Directory Download sections
Logical Unit 9	Expanded registration files

The BBS cannot use Logical Unit 8 for download sections. When the system looks at the configuration it uses Boolean logic to figure out what kind of drive is being accessed. Any byte with a value below eight is figured to be a Logical Unit on a hard drive.

It is possible to use other drives including the SFD1001 along with the Lt. Kernal on the BBS. I use a Buscard II for my SFD1001 and have the Lt. Kernal interface plugged into the end of the Buscard. The R44 resistor in the Commodore 64 has both interface wires (one from the Lt. Kernal and one from the Buscard II) hooked to it without any problems. I also use a 1541 and 1571 on my BBS, in addition to the Lt. Kernal and the SFD 1001.

There is an Autostart routine on the Lt. Kernal that reboots the BBS if the power goes off and comes back on. Use the "autostart" program that comes on the BBS program disk. Programs load in seconds on this drive. The Lt. Kernal allows the ARB BBS to expand into a "Super System".

CHANGING THE BASIC

Don't do it! (Just kidding)

Just about everyone running a board likes to make some personal changes to the basic source code.

BLITZ! is the only compiler that will re-compile the BBS.

If you change the code you are on your own. Have fun.

SAMPLE DRIVE CONFIGURATIONS (con't)

Three 1541s

uploads on drive 9
directory downloads on drive 9
"dl" file downloads on drive 10
three categories with six subs for a total of eighteen
first category ("c 0) on drive 8
second and third categories ("c 1", "c 2") on drive 10.

Four 1541s

uploads on drive 9
directory downloads on drives 9 and 10
"dl" file downloads on drive 11
three categories with six subs for a total of eighteen
first category on drive 8
second and third category on drive 11.

One SFD1001 (8) and One 1541 (9)

uploads on drive 9
directory downloads on drive 9
"dl" file downloads on drive 8
three categories with six subs for a total of eighteen on
drive 8.

There are many possibilities. Depending on your purpose you may wish to have a large message base or an expanded download library.

IEEE drives will go faster than the serial drives. If you are using combinations of IEEE and serial drives use the IEEE drives for your message bases for faster access.

SPLIT 1571 DRIVE

The configuration option in the BBS will allow you to split the 1571 into two 1541 drives back to back. The second side of the disk can be used as an <X>Directory Download disk, Upload disk, or Bulletin/Sub-menu disk. The first side can be copied with any conventional copy program. The second side, since it is going in the opposite direction of side one, can be copied to or from only with a special program. Load the "x4" copy program from the Boot Menu or use the "X. Filecopy" option on the Sysop Menu to load the "x4" program.

USE OPTION "2. 1541 (side2)" IN "x4" TO FORMAT AND COPY TO OR FROM THE SECOND SIDE OF THE SPLIT 1571.

DO NOT USE THE 1571 DISK DRIVE IN THE 1571 MODE FOR DRIVE 8 OR FOR ANY MESSAGE BASE DRIVES.

There is a bad bug in the 1571 ROM that will cause the second side of a disk in the 1571 mode to disappear if it is validated by a computer in the "64" mode.

If using the 1571, add an extra Directory Download drive to any of the sample configurations.

PROBLEMS AND SOLUTIONS (con't)

- Problem:** BBS resets to Online Waiting for a Call. May notice a very quick "device not present" error message.
- Solution:** Reconfigure your drives properly. Check all "t" configuration files with "cfg" program.
- Problem:** BBS resets to Online Waiting for a call when attempting to access message base. May notice very fast "illegal quantity" error message. System will not make it all the way through Auto-Maintenance.
- Solution:** Make sure the proper "c" category file is on the drive that it's message category is configured to. If a "c" file is missing or misplaced there will be problems. There may be an extra line in one of your "c" ("c 0", "c 1", etc.) files. Use the category set up section of the "cfg" program to set up the message base properly.
- Problem:** Case of text changes, strange graphic characters
- Solution:** During Color Graphic activities or ASCII/CG downloads this may happen. The BBS will get back to normal as soon as the user finishes the function.
- Problem:** Everything on disk wiped out!
- Solution:** The number of files went over 144 on a 1541 disk, or the disk may have a media error (cheap disk). Hope you made a backup!
- Problem:** Cannot scratch "FILENAME++" or "FILENAME 1" files.
- Solution:** Copy all the files you want to keep onto a freshly formatted diskette.
- Problem:** Passwords don't work.
- Solution:** There may be an extra line in the "pw" file. This may happen if you edit the "pw" file with a word processor and make an error. Check to see if names and passwords are in the proper sequence. Another possibility is that you tried to have expanded registration on some access levels and no expanded registration on other levels. You can't do that because the BBS will not always be in the right mode when you do the validations.
- Problem:** Sometimes when using an SFD1001 or other IEEE drive the BBS freezes and the clock stops running.
- Solution:** IEEE cables are susceptible to static or other electrical disturbances. Move all IEEE cables away from telephone or electrical wires. Put them away from the computer so static charges cannot get to them when you use the computer. Keep all disk drives (1541, etc.) away from the monitor.

TROUBLE SHOOTING

AUTO-MAINTENANCE

The ARB BBS performs Auto-Maintenance daily at 12:00 A.M. During this time all message disks are validated, the "msg" file is updated and the "p" file is reset. Every few days the "subd" file is reset (depending on how you set the configuration). The first message in any category with more than a certain number of messages (depending on how you set the configuration) is deleted or the second message is merged into the first (depending how you set the configuration).

Under any circumstances do not stop the program in the middle of auto-maintenance or else! Stopping in the middle of validation will destroy the disk.

VALIDATION

Never scratch an open file (one that has an asterisk "*" next to it on the disk directory), Validate! After scratching files validate the disk immediately. This will usually prevent disk errors. You can use the "B. Break" option on the Sysop Menu to get to the immediate mode.

PROBLEMS AND SOLUTIONS

The main cause of trouble is usually a ruined file or a mistake in the configuration "t" files. Ruined files are a rare occurrence and usually occur when a large file is scratched or there is a hard error on the disk media. Use the "x4" file copy program to make frequent backups. From time, transfer all files to a freshly formatted disk. The ARB BBS has error trapping. If an error occurs, the BBS returns to the Online Screen. In many instances, if an error condition, you may not even know it occurred. If the BBS suddenly resets itself for no apparent reason, take a look at the files of the section where the reset occurred.

Here is a table of possible problems and their solutions.

Problem: Program will not load.
Solution: Turn the computer off and on, and try again. If program refuses to boot, your drive may be out of alignment.

Problem: Program freezes the with red light on the disk drive lit.
Solution: File ruined - figure out which file was being accessed when program froze. Scratch that file and recreate it. It might be a good idea to filecopy everything to a freshly formatted disk.

PROBLEMS AND SOLUTIONS (con't)

- Problem:** BBS will not answer the phone.
Solution: First, check telephone jack and wires, make sure modem is connected. Second, when you configure the BBS with the "cfg" program for the first time it is important that you save level 1 ("t1") to your backup program disk. When the BBS boots, it must load "t1" from the program disk. If your modem configuration is not in the "t1" that boots the BBS, the BBS may not answer the phone, because it may be configured for a modem that you are not using.
- Problem:** Message files are not being saved to the disk.
Solution: Remove your Fastload cartridge.
- Problem:** When a message is left in one subboard it somehow appears in one or more other subboards.
Solution: The first eight characters of the subboard names are used to create the message files. If these first eight characters are the same on two or more subboards they in effect become the same subboard. You can use this feature if you need to have the same subboard in more than one category.

TWENTY FOUR HOUR HOTLINES

If you are having difficulties with the program, try to find the answer somewhere in the manual. If you cannot solve the problem, you can log on to the bulletin boards shown below, twenty-four hours a day. Log on as a new user if you are not registered. Try the <C>hat mode. It is possible you may get your answer right away. If the Sysop is not available, go to the <F>eedback section. Say you are a Sysop running the ARB Bulletin Board System. Leave your telephone number (don't forget the area code) and the hours you can be reached. State the problems you are having. Someone familiar with the system will call you collect. Here are the hotlines...

ARB BBS SYSTEM ONE
Langhorne Pa.
215-752-7841

NIGHTHAWK BBS
Huntingdon Valley Pa.
215-947-9212

THE TIME TUNNEL
Queens N.Y.
718-849-3422

THE TREASURE CHEST
Brooklyn N.Y.
718-645-1979

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ARB

ARB BBS
BULLETIN BOARD SYSTEM
FOR COMMODORE 64/128™

scanned by stevyn ironfeather
2021-05-23
hokkaido japan
ironfeather.com

bulletin board system

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