



**C-Net 128**  
**Bulletin Board System**  
Version 4.0

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#### NOTES

- (1) If you are updating from version 3.0, boot the C-Net v4.0 master disk, select "convert data from v3.0" and follow the prompt instructions. It is a good idea to create backups of your v3.0 data files beforehand. Also, scratch system prg. and proto files, and replace them with v4.0 files before conversion.
- (2) If you are using a Lt. Kernal, and have a DOS version 7.0 or previous, you must remove a section of line 501 of the file "CN" on your master disk before the program will operate correctly. On that line, place "rem" (no quotes) immediately before the "print#15...". The new line will read:  
501 close15:open15,b,15:remprint#15,"lg"cs\$ ... etc. You should NOT do this if using DOS 7.1 or newer.
- (3) "ANSI" refers to a terminal standard of communicating control commands for cursor movement and screen manipulation. v4.0 supports a limited amount of ANSI -- it is able to send ANSI codes for color changes, reverse video, flash mode, underline video, and cursor movement. ANSI is found on most NON-Commodore terminal packages. C-Net's visual editor (section 15.10) uses ANSI codes EXCLUSIVELY. An ANSI (or even VT100) terminal program MUST be used to use the visual editor on-line. In addition, the ANSI option should be selected by the user (E command from Main prompt).
- (4) A list of C-Net subroutine line numbers, system variables, and other useful C-Net programming/modification information will be or has been made available by Perspective Software. Call the support BBS at 313-981-6150 to inquire about its availability.
- (5) C-Net v4.0 has been EXTENSIVELY tested by beta testers using varied hardware configurations. If, however, you enter a problem which you attribute to a software failure (as opposed to a hardware problem or incompatibility) please do not hesitate to contact us through our BBS or USMail.
- (6) Networking, although it didn't make it into version 4.0, is something we have in the works. When more information about networking becomes available, we'll likely mail out information. Or, if you prefer, contact Future World to keep in touch.

Welcome to the world of telecommunications on your Commodore 128. C-Net BBS is, in our opinion, the most sophisticated bulletin board system available for your Commodore 128. Please take the time to completely read through the introductory and set-up chapters of this manual before attempting to operate the program--this will insure a successful configuration the FIRST time. Once C-Net is configured and operating properly, you will likely not require any further assistance from this text for the basic operation of the program. The balance of this manual has been provided, however, to detail all of the many intricate features of C-Net 128 that exist, waiting to be discovered! This chapter of the manual contains all of the warranty, support information, and other legalities--please bear with us!

#### 1.1 USAGE AGREEMENT

You have the non-exclusive right to use the enclosed program. This program may only be used on a single computer at a time. You may not distribute copies of the program, protection device ("dongle"), or documentation to others. You may modify or translate the program for personal use only, and only in accordance with all other parts of this agreement. Modification and translations may be made for personal use only, unless prior written permission has been given by Perspective Software stating otherwise.

YOU MAY NOT USE, COPY, MODIFY, OR TRANSFER THE PROGRAM, DONGLE, OR DOCUMENTATION, OR ANY COPY, EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT.

#### 1.2 BACK-UP AND TRANSFER

You may make one (1) copy of the program for back-up purpose. You must reproduce and include the copyright notice on the back-up copy.

You may transfer (give or sell) the product to another party if that other party submits a written request to this effect including the following:

- (1) your name
- (2) the software version and serial number
- (3) the new owner's name and complete address
- (4) the new owner's voice and BBS phone numbers
- (5) a transfer fee of \$5

If you transfer the program you must at the same time transfer the documentation, dongle, and back-up copy, or transfer the documentation and dongle, and destroy the back-up copy.

You may NOT transfer a version of the software after paying an UPDATE price to upgrade to a newer version of the software (this includes updates of the software from one machine type to another, such as Commodore 64 to 128). When you transfer, you must transfer the version of the software you originally purchased, and all subsequent versions (and associated documentations and back-ups) that you paid a price less than retail price for (that is, an "update" price). Furthermore, transferring will completely purge your name from our database, to be replaced by the new owner's.



### 1.3 COPYRIGHT

The program and its related documentation are copyrighted. You may not copy the program and documentation except as for back-up purposes and to load the program into the computer as part of executing the program. All other copies of the program, dongle, and its documentation are in violation of this agreement. YOU MAY NOT REMOVE THE COPYRIGHT NOTICES AT ANY TIME.

### 1.4 LIMITED WARRANTY ON DISK AND DONGLE

Perspective Software warrants the disk on which the program is furnished, and the dongle to be free from defects in materials and workmanship under normal use for a period of 90 days from the date of delivery to you as evidenced by the shipping records. To obtain a warranty service or replacement, you must deliver the disk and/or dongle prepaid to Perspective Software. Replacement of a lost dongle may involve a substantial replacement fee.

EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THE DISK IS LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY.

### 1.5 PROGRAM AND MANUAL

The program and the manual ("software") are provided "as is" without warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Should the program or manual prove defective, you (and not Perspective Software or the dealer, distributor or representative) must assume the entire cost of all necessary servicing or repair. Further, Perspective Software does not warrant, guarantee, or make any representations regarding the use of, or the results of use of, the program in terms of quality, correctness, accuracy, reliability, currentness, or otherwise, and you rely on the program and results solely at your own risk.

Perspective Software does not warrant that the program or manual will meet your requirements or that the operation of the program will be uninterrupted or error free.

### 1.6 LIMITATIONS OF REMEDIES

In no event will Perspective Software be liable to you for any damages in excess of your license fee paid, including, without limitation, any lost profits, business goodwill or other special, incidental or consequential damages arising out of the use or inability to use the program, or for any claim by any other party, even if Perspective Software or the dealer has been advised of the possibility of such claims or damages. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

### 1.7 UPDATE AND CUSTOMER SUPPORT POLICY

In order to be able to obtain any customer support or updates of this program, you must complete and return the enclosed registration card to Perspective Software. If this

registration card has not been received by Perspective Software, or Perspective Software is aware of breach of any part of this agreement by you, Perspective Software is under no obligation to make available to you any customer support or updates to the program even though you have made payment of the applicable update fee.

#### 1.8 ACKNOWLEDGEMENT

You acknowledge that you have read this agreement, understand it, and agree to be bound by its terms and conditions by completing and returning the enclosed registration card, or by your first use of the software. You also agree that this agreement is the complete and exclusive statement of agreement between the parties and supercedes all proposals or prior agreements, verbal or written, and any other communications between the parties relating to the subject matter of this agreement.

Should you have any questions concerning this Agreement, please contact in writing

Perspective Software  
Customer Sales and Support  
Post Office Box 87175  
Canton Twp., MI 48187

#### 1.9 USER SUPPORT

Thanks for purchasing the C-Net 128 BBS. This manual is a detailed description of the features and capabilities of the Program. However, if you have any questions left unanswered, or if you discover any problem with any part of the Program, please feel free to contact us on our 24-hour BBS:

Future World! BBS  
(313)-981-6150  
System Operator: Ken Pletzer

VOICE Support and Information Line  
(313)-981-4113  
Limited hours, contact BBS for details.

The majority of users on the BBS are users of the C-Net software and are willing to share their experiences and information about the Program and many other topics as well.

Or, if you prefer, contact in writing, Perspective Software, Customer Support, Post Office Box 87175, Canton Twp., MI 48187.

Good luck and happy BBS'ing!

This section will assist you in choosing and configuring the correct computer equipment to use with the C-Net BBS.

## 2.1 MODEMS

There are three basic types of modems that are compatible with the software:

- (1) the 1650 modem and anything compatible (Westridge, Video 7, Total Telecommunications)
- (2) the Mitey Mo and anything compatible (Hesmodem II),
- (3) the Hayes Smartmodem and anything close to being compatible (Prometheus ProModem, Commodore 1670, Progressive Peripheral & Software's Taihaho Lynker, US Robotics Courier)

1200 and 2400 baud may be used with Hayes compatible modems only. A "Hayes compatible" modem understands "AT" commands such as ATV0, ATH, ATSO=n, ATST=n, ATX1, and ATA. A VolksModem is NOT Hayes compatible. To use a BBS with a Hayes compatible modem, factory settings for dipswitches and NRAM (if equipped) are adequate, with a couple of exceptions:

- (1) Carrier detect MUST be enabled. Some modems use a dipswitch (USRobotics must have switch 6 UP), and some use a command (type in terminal mode): AT&C1&W
- (2) If you plan to use modem type 4 (section 3.3.11), DTR must be enabled. Some modems use a dipswitch (USRobotics switch 1 UP) and some use a command (AT&R1&W typed inside a terminal program). If you use modem type 2, keep the factory default.
- (3) Modems with ARQ or MNP error correcting protocols must have the command AT&A0&W sent to them.

RS-232 interfaces, which are necessary to connect most Hayes compatible modems to the Commodore 128, must be tested SEPARATELY for their compatibility with C-Net. If your interface has a "normal/inverted" switch, NORMAL USUALLY corresponds to DCD setting 16, and INVERTED to 0 (see section 3.3.8). RS-232 interfaces that have been successfully tested include the MSD and the Omnitronix brands.

## 2.2 FLOPPY DISK DRIVES

Generally, any disk drive that can be connected to your 128 and used normally with SAVE, LOAD, and OPEN commands, can also be used with C-Net. Disk drives that have been successfully tested include the Commodore 1541, 1571, 1581, SFD-1001, MSD-D2, Indus GT, Commodore Pet 4040, 8050, 8250, 9060, and 9090. IEEE interfaces, which are necessary to connect SFD-1001's and other IEEE parallel disk drives must be tested separately for compatibility. The only IEEE interface that has been successfully tested is the Skyles Quicksilver 128. There are two terms with which you must be familiar when configuring your C-Net BBS. Whenever a reference is made to a disk drive DEVICE, it is in reference to the unit as a whole. A disk drive device may have a one or two disk capability, each referred to as a DRIVE. A brand-new disk drive has a DEVICE number of 8. If you plan to connect more than one disk drive to the 128 for use with the program, you must insure that each

disk drive has a unique DEVICE number (see disk drive instructions or consult a professional for information about changing the DEVICE number of a new unit if you are unsure). A disk drive with a one disk capability is said to be a DRIVE 0. With a two-disk drive, the individual disk slots are numbered DRIVE 0 and 1 (see disk drive instructions to see which disk slot is which).

### 2.3 HARD DISK DRIVES

The only Commodore 128 compatible hard disk unit available at time of this publication that we would recommend for use with the software is Xetec's Lt. Kernal. The drive is available in either 20 or 40 megabyte configurations. The Lt. Kernal may be partitioned into as many as 10 "logical units" (LU's), numbered from 0 to 9, each referenced in exactly the same manner as would separate DRIVES of one DEVICE (as discussed in the previous section). When configuring these LU's for size, you should not allocate more than 65,000 Commodore size blocks worth of disk space to any one LU. Other special Lt. Kernal considerations will be noted throughout this manual as necessary for proper use of the drive.

### 2.4 VIDEO OUTPUT

C-Net 128 sends screen output through the RGB port--the 80 column VDC chip is used exclusively. It is NOT possible to use the VIC (40 column) chip--the VIC chip does not operate in FAST mode, and requires 1k of "screen" memory. You MUST be using an RGB monitor or a specially created MONOCHROME (one color only) cable plugged into the RGB output driving a composite monitor. To create such a cable to attach to your 1702 or 1710, simply connect pin 7 of the RGB output port to the tip of an RCA connector and pin 1 to ground of the same plug.

The 40/80 column selector key at the top of the keyboard MUST be depressed at all times.

### 2.5 CARTRIDGES

No form of "fast load" or other types of software cartridges have been successfully tested with C-Net 128, but have only interfered and have caused problems.

### 2.6 RAM EXPANDERS

Both the Commodore 1700 and 1750 have been successfully used with C-Net 128 (1764 MAY also work). C-Net uses the RAM expander as a simulated "RAM disk" without a device number; file locations and I/O are directly tracked and managed by C-Net itself. RAM "loading disks" must be configured for system set-up. This will be covered in detail in section 3.6.



This chapter explains how to "configure" C-Net 128--actually preparing the program and your system for use.

### 3.1 LOADING THE SYSTEM CONFIGURATION PROGRAM

The 5.25" master diskette, unless specified otherwise, is in Commodore 1571 format. You must be using a 1571 in 1571 mode for proper loading and copying of the software.

NOTE: For Lt. Kernal users, your first task should be to copy the ENTIRE master diskette to LU 0 of your hard drive (configured as device 8), then create a BASIC file called "autostart" containing the single line:

```
1 blood"intro":sys14336
```

C-Net will automatically boot from the Lt. Kernal upon power-up with this file in place. For floppy users, insert the C-Net master diskette into device 8, and power-up the Commodore 128. Soon, the following menu of options will appear:

- (1) Put C-Net BBS On-Line
- (2) System configuration
- (3) Convert data from v3.0

Select system configuration (2) by pressing the down arrow key (the second key in the set of arrows at the top of the keyboard) once to move the light bar pointer down, then the RETURN key. Once the system configuration program has finished loading, you will be instructed to insert all system disks, and then to press RETURN. You should remove the C-Net program disk, then insert blank or erasable disks into every disk drive connected to the system. After pressing the RETURN key, C-Net will let you know that the system is not yet configured, then a menu of eight options will appear. To properly configure the system, you must select the options in the order following.

### 3.2 FORMAT DISKS

Disks must be formatted and completely empty before they may be used with C-Net. Systems with only hard drives may skip this section. Press RETURN with the lightbar at the first option to begin formatting disks. You will be asked for the DEVICE and DRIVE location of each disk that is to be formatted. After a disk is formatted, you will be informed of the disk drive status. If there is an error, you should first try another erasable disk before having the disk drive unit checked for problems. Continue to select device and drive numbers until all disk drives contain empty, newly formatted, error-free disks. Go back to the menu by pressing RETURN when you are asked for another device for formatting.

### 3.3 GENERAL PARAMETERS

Now move the lightbar to the second option, and press RETURN. For this screen and the following configuration screens, you will be given cursor control using the four control arrows at the top of the keyboard. To change an item on the screen, simply begin typing and press the RETURN key when finished. To exit a screen, press the ESC key, which is located at the top left corner of the keyboard. While exiting a screen, you will

be asked if you would like to save what you have changed. You should answer "yes" by entering the letter "y" and then pressing RETURN.

The following information is configured at the general parameters screen:

- 1) System disk -- device and drive number for storage of all system information (user files, help files, etc.). If you are using a Lt. Kernal, your system disk MUST be configured to either an LU 0 or a 1.
- 2) E-Mail disk -- device and drive number for storage of all inter-user messages. If you are using a Lt. Kernal, your E-Mail disk must be configured to either an LU 0 or a 1.
- 3) Etcetera disk -- device and drive number for storage of all system logs (file transfer log, call log, error log, feedback, new user information, etc.)
- 4) G-Files disk -- device and drive number for storage of C-Net's general text and information file system.
- 5) P-Files disk -- device and drive number for storage of all program modules (the system's modules, and on-line games).
- 6) Output FEEDBACK, LOGS -- The two numbers on line 6 tell C-Net where to print many system messages and logs. The first number directs feedback and new user information. The second number directs the caller log, system error log, and file transfer (upload/download) logs.
  - (1) indicates disk file output (to the Etcetera Disk)
  - (2) indicates printer output
  - (3) indicates output to both disk file and printer
  - (0) indicates no output at all.
- 7) Login identifier -- The login identifier is a two character prefix to all user ID's of the system. Both characters must be uppercase letters, or numbers. Do not use punctuation symbols. (eg., "FW" is used on my system, because it's name is "Future World").
- 8) DCD invert -- This entry should ALWAYS be set to 0 if you are using modem type 0, 1 or 3, but can be either a 0 or a 16 for modem type 2 or 4, depending on your RS-232 interface, and whether it supports normal or inverted carrier detection. If your modem was connected when you ran the configuration program, DCD invert may have been automatically set to the correct value for you. If calls are answered and immediately logged off, you may have the DCD invert value set incorrectly.
- 9) Printer device -- usually 4 or 5. Check your printer interface instructions to be sure.
- 10) Printer secondary (address) -- usually 7, but check your printer interface instructions to be sure.
- 11) Modem type -- set according to the following list:
  - (0) Mitey Mo, Hesmodem II
  - (1) 1650, Westridge, Total Telecommunications, Video 7
  - (2) Hayes smartmodem, Prometheus, Lynker, Courier, and other Hayes compatibles (extended return code set and non-verbose mode must be supported). C-Net waits for a ring, sends ATA, then waits for a connect code -- 1 for 300 baud, 5 for 1200 baud, or 10 for 2400 baud. "+++" and ATH are sent to hang up. If a dip switch for DTR exists, set it for always on (true).

- (3) Commodore 1670 (this modem does not support ATA while the phone is ringing -- so must always be set to auto-answer mode).
  - (4) A Hayes compatible (type 2) modem with DTR (Data Terminal Ready) control ability for fast hang-ups. The RS-232 interface must also support the DTR pin connection to the modem. If a dip switch for DTR exists, set it for line signal (not always on), to use this modem type.
- If a dip switch exists on any modem for CD (carrier detection), insure that it is set for line signal (not always on). If such a switch is set incorrectly, C-Net may be unable to properly "clear the line" when a caller hangs up without properly logging out.
- 12) Idle baud rate -- baud rate at which the computer should conduct conversation with the modem while the system is waiting for a call. Many 2400 baud modems (including the Hayes itself) require that you select 2400 here. 300 baud modems must select 300. 1200 baud modems may work at either 300 or 1200 here.
  - 13) Default text color -- a color code (0 to 15) for color of all system prompts and status displays. I would suggest against using 0, black, as a default text color!
  - 14) Drive secondary address -- When writing to files, 1571's tend to write faster (when writing to the back side with the old bug-filled ROM's) with a SA of 1. Most other drives don't mind this 1. The Lt. Kernal will not function with SA of 1, so you must change the 1 on this line to a 2 if you are using the Lt. Kernal.
  - 15) Network/amaint hour -- This is the time of day (hour in military time, 0 is midnight, 12 is noon, etc.) that automaintenance will occur. Automaintenance is described more fully in the System Maintenance chapter.
  - 16) 2400 Baud fine adjust. If you use a 2400 baud modem on your system, you may notice that certain users are not able to UPLOAD using 2400 baud. Each 128 is slightly different, and requires "fine tuning" of the 2400 baud timer settings. The default value is 169, and should be changed to 161 if you are using a Lt. Kernal. If you still experience problems with 2400 baud file transfers, you should experiment with values in the range of 5 give or take from the 169 or 161 value.

When you have finished with this screen, press ESC.

### 3.4 USER DATA FILES

You should now select the third option. You will be warned that this will erase any existing user data. Enter a "y" to go on. You will be asked for a number of user accounts to initially reserve disk space for--it is a good idea to slightly overestimate this number. After this number of user accounts is exceeded, however, the files should automatically grow to accomodate any new accounts. It will take several minutes to create the user data files. NOTE: some disk drives may not like to expand the user data files on an as-needed basis, so it may be a good idea to reserve all of the space you think you will ever require right now! Each complete user account

requires slightly less than one disk block.

#### 1.4 ACCESS GROUPS

You should now select the fourth option. C-Net allows you to have up to 15 separate access groupings, numbered 0 to 14. New users to the system are always placed into group 0. You do not have to use all of the groups--the ones that you do use need not be consecutive or in any specific ordering. You should choose one of the access groups to be the system operator's (SysOp's) group (for you, and maybe a small select group of highly trusted) having highest system privileges. Because the actual placement of a group on the access group screen means NOTHING about what that group has access to, the SysOp's group DOES NOT have to be 14--often group code 1 or 2 is more convenient. For each group that you use, you can specify the following information:

- Group name: a title used on the system instead of simply an access group number.
- CD: number of calls per day that the group can make. 0 indicates infinite.
- MC: how many minutes per call will be allowed. 0 indicates infinite.
- I: how many minutes idle will be allowed (how many minutes may pass without hitting any keys before the system will automatically hang up). May NOT be 0!
- DL: how many files may be downloaded per call. 0 indicates infinite.
- UL: how many files may be uploaded per call. 0 indicates infinite.
- RA: a download ratio--how many blocks may be downloaded in return for every block uploaded. (A user is allowed to exceed this ratio by 1 file of any length at all times). 0 indicates no restriction on downloading based on uploaded blocks.
- MS: how many messages may be left per call. 0 indicates infinite.
- PF: number of minutes that may be spent in the p-files section of the system per call. 0 indicates infinite.
- FB: number of "feedbacks" a user may leave per call. 0 here MEANS 0, not infinite.
- ED: number of lines that may be normally used when writing a message in the editor, unless limited by some other factor, such as disk space, or a subboard's individual restriction. Only settings from 7 to 250 are valid. The value given for group 0 will be used also for the "personal statement" section of new user login.
- MxM: minutes per day maximum that may be spent on the system, assuming the user has enough calls/days and minutes/call to reach this limit. 0 indicates infinite here.
- \$Min: per minute system access charge in 1/1000 of a dollar (part of the accounting system, which will be described fully in a chapter to follow).
- \$Dbt: the maximum debt a user may accumulate on the system, in 1/100 of a dollar. Again, this function will also be described fully in a subsequent chapter.
- 12345678: eight flags, each having a value 0 or 1,



enabling (1) or disabling (0) a system function. The eight system function flags are as follows:

- 1: System Maintenance (system operators only)
- 2: Electronic (private user to user) Mail
- 3: The user listing and search system
- 4: Editing parameters (password, etc.)
- 5: General message subboard, file transfer, p-file, and g-file systems maintenance (maintenance features for each system described in their respective chapters).
- 6: Allows use of MCI commands BCFHKNOQRUYZ and cursor movements only. See section 15.9 for further MCI information.
- 7: Allows use of ALL MCI commands.
- 8: Allows the user the ability to "re-logout" to the system--described further in another chapter.

### 3.6 TRANSFER C-NET FILES

At this point, you may press the RESET button to return to BASIC. To avoid having your Lt. Kernal boot C-Net after you have pressed RESET, press the RUN/STOP key after the Commodore copyright message is displayed, and hold it down until the BASIC cursor appears.

If you have a 1700 or 1750 RAM expander, C-Net is able to make use of it to store three types of files:

- (1) program modules (prg. files)
- (2) file transfer protocols and machine language overlays (proto files)
- (3) sequential files which are read by the system from start to finish, that is, any completely NON-DATA SEQ files (such as menus, g-files, welcome and exit files, ~~the 1700~~ subboard entry files). Sequential files stored in the expander may not exceed 10,240 bytes (approximately 40 disk blocks).

The RAM expanders are divided into banks of 64K bytes (approximately 256 disk blocks). The 1700 has 2 of these banks; the 1750 has 8. C-Net is not able to load a file partially into one bank, and continue it into another--a file must fit entirely into one bank. This means that if as C-Net loads a file into the expander, it finds not enough room in the current bank for the file it is attempting to load, it will move to the next bank, leaving some memory in the previous bank unused. The result is this: optimally, a 1700 can store 512 blocks, but because some of the memory at the end of each of its two banks must be wasted, the 1700 may only be good for 480, or even 430 blocks. The same situation holds for the 1750, which can (under optimal circumstances) hold 2048 blocks. You will have to observe the loading process (next chapter) to see if you have over-extended the memory or your expander.

To use a RAM expander, designate a blank and formatted disk as your "RAM loading disk" and copy to it all files you wish to load into the RAM expander, as well as the file "prg.setup" from the C-Net master disk. You may use multiple disks for program/proto files, and a separate disk for sequential files.

Any files NOT included on these disk(s) for loading into the RAM expander must be copied to the appropriate disk(s) in the same manner that one who is not using a RAM expander would.

Note: if you are using a Lt. Kernal, and you have copied the C-Net master disk completely to LU 0, and have configured your system disk and p-files disk to be on the same LU, you have then already completed the following procedures!

WARNING: DO NOT USE A "FAST HACK 'EM" FILES COPIER TO TRANSFER FILES FROM THE C-NET MASTER DISK--THEY HAVE BEEN PROVEN TO BE VERY UNRELIABLE AND DANGEROUS TO DATA INTEGRITY!

You should load and use a file copier program such as Jim Butterfield's "copyall" or the 1571 "unicopy" to transfer the following program modules from the C-Net master disk to your designated p-files disk:

prg.maint	prg.term	prg.u/d	prg.email
prg.ulist	prg.new user	prg.news	prg.subs
prg.files	prg.logon	prg.utilities	*prg.vote
*prg.dating	*prg.avalid	prg.umaint	*prg.collect
*prg.charges	*prg.profile	*prg.bbs list	prg.smaint

Files marked by an asterisk (\*) are actually optional files. Discluding one or more of these files simply disables the associated main level command(s). Each file will be mentioned as its associated command is described in a later chapter.

Next, you should copy the following system files from the C-Net program disk to your designated system disk.

sys.menu 1	sys.menu 2	sys.menu 3	sys.menu 4
sys.menu 5	sys.menu 6	sys.menu 7	sys.menu 2a
proto 0	proto 1	proto 4	proto 5
proto 7	proto 8	proto 9	subs.o
nds.o			

Also, copy all files beginning "sys.help." to your system disk for a fully operational HELP system.

If you wish to configure a separate "boot" disk (if for instance you are using a Lt. Kernal, and have your system disk and p-files disk configured to LU's other than your boot disk) the following files must be installed on a disk for use in device 8, drive (or LU) 0:

intro	m1	c1	cn
d	m2	m3	su
prg.setup	prg.ram	m4.o	

### 3.7 ACCESS CODES

Version 4.0 is the first C-Net version to do away with "the powers of 2" access coding system. When you are prompted for an access group coding, that is, asked "which access groups may enter this area?" a much simpler system is now available. To specify a range of access groups, enter the lower and upper limits of the range, separated by a comma. For example,

entering "2,9" specifies groups 2,3,...,8, and 9. To specify two separate ranges or two separate groups, separate these with semicolons (;). For example, 2;11 are groups 2 and 11 only; 0,5;8 is groups 0 through 5 and 8; 1,5;7;9,14 is all groups except 0, 6, and 8. If at any time you wish to enter an access group coding using the old system, enter the number followed by !. For example, 32767! specifies all 15 groups.

At points throughout the system where access group codings are displayed, a series of 15 digits is printed, one digit representing each of the 15 groups. A code with all 15 groups will appear as 0123456789ABCDE. When any group DOESN'T have access, that group's number will be replaced by "-". For example, 0123-56-89ABC-- shows a coding of all groups except 4, 7, 13 and 14.

Once you have completed the configuration instructions contained within chapter 3, this chapter will help you with actually putting your C-Net 128 "on-line."

#### 4.1 BOOTING THE PROGRAM

C-Net must be booted from device 8. If you have either a 1571 or 1581 master, insert the master disk into the appropriate disk drive. If you have a two disk 1541 master, insert disk "1" into either a 1541 or a 1571 drive. If you have a device 8 Lt. Kernal, and have copied the master disk to LU 0, and have created the autostart file described in chapter 3, you need not insert any disks. Now, power up the computer. If for any reason you are booting from a copy of the boot disk in any other format, the command:

```
boot"Intro"
```

is all that is needed to get things moving.

When the light bar menu appears, press RETURN to select "Put C-Net BBS On-Line."

If no activity is detected from the keyboard at this light bar menu for a period of approximately 30 seconds, C-Net will automatically skip the date entry prompt and the "insert disks" prompts in an effort to put itself on-line. What this means is, if your system will autoboot when powered-on, and all of the boot files are present on device 8, C-Net, unattended, will take itself the rest of the way to "waiting for call" in the event of a power failure. The date used for set-up will be either the date from the last setup, or the date of the last user's signoff. A command is provided in system maintenance to change the date while you are on-line.

#### 4.2 SETTING THE DATE AND TIME

First the month will be set. Use the up and down arrows to change the month displayed. When the correct month abbreviation is displayed, press the RETURN key. Now you must set the date. To change the date, use the number keys, either on the numeric keypad or at the top of the keyboard. When the correct date is displayed, press the RETURN key. Enter the year, hour, and minute in the same manner. Finally, you must press either "A" or "P" to select AM or PM, respectively. The date you enter will be stored in the file "d" on your boot disk.

NOTE: To protect the boot code from ever becoming overwritten by saved program code on the master disk (or a back-up), never validate (collect) the disk.

#### 4.3 LOAD AND RUN C-NET

When you have finished setting the date and time, another menu will be displayed, giving you a chance to correct the date and time if you have made a mistake. If the date and time are correct, select the option to "OK" to continue. If the load proceeds correctly, several seconds later, C-Net will clear the screen and ask you if you would like to load PRG files into the RAM expander. If you will not be using the RAM expander,



simply press RETURN to continue.

If you intend to load any p-files into the RAM expander, press Y and then follow the instructional prompts that follow. As p-files are loaded, each file name and stored location in the RAM expander will be displayed. The bank (a 65,536 byte partition of the RAM expander) number will always begin at 0, and increment as a bank fills, and another must be used. The 1700 may use only banks 0 and 1; the 1750 may use banks 0 through 7. If you are using a 1700, and a warning appears on the screen telling you that a 1700's capacity has been filled, you must halt the process, and remove some of the files from your RAM loading disk, and place them on the appropriate p-files or system disk instead.

Once one disk of p-files has been loaded, you will be given the option the load p-files from another p-file loading disk. Once you are finished loading p-files, you are then given the option to load sequential files. Note that you must load at least one p-file before being able to load any sequential files into RAM.

If you have selected not to load p-files into RAM, or if you have finished filling the expander, you will next be instructed to insert all system disks, and press RETURN. Before pressing RETURN, insure that the disks that you configured the system onto are placed into their correct drives, the disk drives are all on, and your modem is turned on, if it has a power switch. If the system has been configured correctly, the disks will spin for several minutes as the program goes through all set-up routines. Soon, the "C-Net: Waiting for call" message and SAM screen will be displayed. At this point, we will sidestep to explain everything you should see on the screen.

#### 4.4 THE STATUS WINDOW

The status window resides at the bottom five lines of the screen. When a user calls into the system, the status window will display many variables and statistics of his account. His stats will remain displayed even after he signs off--up until another user calls in.

The first half of the first line contains the "on-line" functions menu, "SY AC TR CH NW PR UD" which is explained in detail in chapter 5. At the far right of the first line, appears the number of minutes remaining for the user until automatic logoff (TIME= xx). If a user has no time limit, TIME=01 will constantly be displayed. Between the on-line functions menu and the time remaining display exists space which will, while a user is using the system, contain the most recently executed command, and the system prompt the command was entered from.

The next three lines will contain information about the user's account, which will be separated into sections for easy interpretation. The sections are coded as follows:

ID The user's ID number, then HANDLE (name used on the system). An ID number of 0 always indicates that the user HAS NO ACCOUNT--he's just browsing the system. (see

information about NEW USERS).

AC The user's access group (0-14), followed by the user's real name. Access groups 10 to 14 are displayed as single HEX digits, "a" to "e."

TZ The user's TIME ZONE (-23 to 23; your time zone is always 0), followed by the user's phone number, then birthdate.

CALL will be a series of numbers of the form CCC:TTTT DD/MM:EEEE, such as 086:51866 01/03:0012, where CCC is the number of calls your system has received since setup, TTTTTT is the number of calls your system has ever received, DD is the number of calls the user has made today, MM is the maximum number he can make in one day, and EEEE is the number of calls he has ever made to the system.

LAST is simply the date and time of the user's last call to the system.

PARM contains the user's screen dimensions, in the form WW:LL, where WW is the width in columns, and LL is the length in lines or rows.

ON@ simply tells the time at which the user connected, and the method of connection. INS=Instant, NEW=New user, SON=Signon, AVL=Autovalidated.

BAL is a positive or negative measure of the user's account balance (for the accounting system, described further later), measured in cents (1/100s) of a dollar.

CMP is the user's computer type, abbreviated to 5 letters.

IDLE is the number of minutes and seconds the user has sat at a command prompt without pressing a key. If this timer reaches the maximum number of minutes idle (I) that has been specified for the user's access group, the system will automatically log the user off.

MIN minutes used by the user during previous calls today, followed by the maximum number of minutes the user may use in one day, as specified by his access group setting.

CPS characters per second (the user's connect baud rate, divided by 10).

USR The number of user accounts being used on your system (including deleted accounts).

MR Check marked if the "More?" mode is enabled.

CG Check marked if the user has selected Commodore graphics.

XP Check marked if the user has selected Novice experience; an ! appears if the user has selected full expert mode.

LF If line-feeds are sent after each carriage return.

AN Check marked if the user is using an ANSI terminal.

UP The number of blocks the user has ever uploaded.

DN The number of blocks the user has ever downloaded.

PV The number of private messages the user has ever left.

PB The number of public messages the user has ever left.

PAGE The letters 'PAGE!' will flash if the user has requested to chat with you.

The space following 'PAGE!' is reserved for the user's "reason for chatting."

#### 4.5 THE SYSTEM ACTIVITY MONITOR

While waiting for a call, the text output window will be filled with System Activity Monitor (SAM) information. Three separate SAM screens are available. To change screens (only when "C-Net:

Waiting for call" is displayed), press the appropriate screen number:

- (1) (default) SAM variables. SAM keeps track of 16 system activities: feedback, e-mail sent, e-mail sent to the sysop, subboard posts, responses to posts, g-files read, p-files ran, system errors, new users, files uploaded, blocks uploaded, files downloaded, blocks downloaded, minutes of system usage, minutes of system idleness, and accounting system total charges. Each of these variables is tracked in five different ways:

LAST: what the last user of the system did on-line.  
SETUP: what has been done by all users since the system was last set-up.  
PERIOD: this column of numbers only re-sets when you want it to--by pressing C=P described below, or as directed by automaintenance (see chapter 13).  
TOTAL: running totals of everything that has happened on the system since first configuring it.  
CURRENT: tells you the amount of each item present at any given time. For example, a number 5 under CURRENT across from feedback tells you that you now have 5 pieces of feedback waiting to be read. The total number of files and blocks present in the file transfer system are placed under CURRENT across from files uploaded and blocks uploaded. These numbers are not repeated (and wouldn't make any sense) following files and blocks downloaded.

In the upper right corner, SAM will display the number of free blocks on all devices and drives (or LU's) used with the system. In the lower right corner, SAM displays the dates and times that each of the four accumulating columns has last been reset.

- (2) The large digit time of day clock. Neat to watch!  
(3) The System Activity Graph (SAG). Each 20 minute period of the day is marked along the x-axis (the horizontal bar at the bottom of the window), beginning with midnight, noon in the center, and 11:40 PM at the far right. For each of these 20 minute periods, a verticle column shows how active the system has been (ie, a user logged on) during this time of the day as a percentage of the total minutes the system has been on-line during this time of the day. At a quick glance, you are able to determine your system's busiest and least busy times during the day. The SAG only resets when you press C=G at "Waiting for call" or as directed by automaintenance (see chapter 13).

**WARNING!** To maintain data integrity, the "Waiting for call" screen is the only safe place to press RESET or cut power. Other commands available here are as follows:

C=P Hold the Commodore key and press P to reset the SAM PERIOD column to all zeros.  
C=G Reset the System Activity Graph to zeros.

- C Note: If the system crashed or was subject to power loss, the SAM current column may eventually become erroneous (ie negative or otherwise inaccurate numbers). Pressing Commodore C will cause C-Net to run through all system files and retally the CURRENT column.
- ← Press the arrow key (under the ESC key in the upper left corner of the keyboard) to toggle screen blanking on and off. With screen blanking enabled, your screen will automatically become blank if more than approximately 15 seconds passes while the system is waiting for a call and there is no activity from the keyboard.
- T Quick terminal mode. Enter terminal mode to make outgoing calls at the touch of a single key. Note: C-Term's capture buffer is not available in QuickTerm mode.
- ESC Enter C-Term, a full featured terminal package, built right into C-Net. See chapter 17 for details.

#### 4.6 LOGGING ON TO THE SYSTEM

At this point, the system is ready for a caller. You may either wait for someone to call in "remotely" (through your phone modem) or sign on to the system yourself from "local" mode. To call "locally" you must move the small on-line functions lightbar to LO by pressing the right arrow key (above INST/DEL) twice, then activate it by using the cursor up key.

When someone has called, either remotely or locally, the program's copyright message will be displayed, then the user will be asked to press his backspace key. By analyzing the character that is received here, C-Net is able to determine whether the caller is using a Commodore color & graphics compatible terminal program, or requires the standard ASCII translation. The file "sys.start" (if present on the system disk--see system maintenance, chapter 13 for instructions on how to write a file) will be displayed here.

Next, the program will instruct the user to enter his handle or login ID. If the user makes a mistake entering any of this information, or simply presses RETURN, he will be told to enter NEW in order to receive an account, and is then given another chance to enter his logon information. If the user makes four incorrect login attempts, without entering NEW, the system will automatically disconnect him.

A way to INSTANTLY log on from local mode as account number 1 (presumably your account) is to hold down the CONTROL key as you select the LO option on the on-line functions menu, and keep the CONTROL held down until the cursor drops to the middle of the screen. All logon prompts are skipped by doing this. If you continue to hold down the CONTROL key while the system reads your account from disk, all other logon procedures will also be avoided, taking you instead directly to the system maintenance prompt.

#### 4.7 NEW USER APPLICATION

Entering NEW (which you will have to do initially to become a user of your own system) will begin the new user application process. The status window will display "new user login in progress" to the left of the time remaining (TIME=) display

until the new user login process has been completed, or, if it is aborted, another user logs on. The file "sys.new user" (if present on your system disk) will be displayed at this time. The new user login process consists of these four parts:

- (1) General information (a handle to use on the system, a real name, a phone number, a password, two lines of address, and a birthdate)
- (2) Terminal parameters (computer type, screen width in columns, screen length in rows, whether or not linefeeds are required after carriage returns, whether or not the "More?" option will be used, the user's chosen level of system help, the user's time zone, and whether or not the user is "paranoid"). Several of these parameters require further explanation:

"MORE?" OPTION: if enabled, will cause screen output to be paused after the screen is filled, until the user presses a key. If the N key is pressed at a "More?" prompt, an attempt will be made to abort the output.

HELP LEVEL: if set at "beginner" will cause the system to display important commands before every command level prompt. If set at "novice" these command helps are suppressed. If set at "expert," other system files, such as entry information to subboards and file transfer areas is also suppressed.

TIME ZONE: a user may select a number of hours (-23 to +23) that his particular time zone is different from the system's time zone. Using this information, the system will display all dates (normally displayed in system time) relative to any given user's time zone--as if the system were in his own time zone.

PARANOID: if a user selects that he is NOT paranoid, other users are able to view his real name, address, phone number and birthdate. The UI and UL commands provide this information.

- (3) Miscellaneous questions. As initially programmed, the system requests the user's occupation and favorite color for your information. This information (along with the personal statement to follow) is written into a file for your review--it is not retained by the system. You may alter the miscellaneous questions by changing the DATA statement on line 62048 of the file "prg.new user." The first data element, an integer, tells how many questions (in quotation marks) are to follow.
- (4) A personal statement (a chance to type a paragraph or two briefly explaining anything else that needs explaining).

If you create a file "sys.badnames" on your system disk, the system will allow you to disallow certain handles or handle fragments from being used on the system. Again, refer to section 13.3 for information about creating files. Each line of the file should be written to contain a separate pattern. Use the left arrow character (underneath the ESC key) to represent spaces, before, after, or contained within patterns. For example, if you enter TOM on one line, the system will not allow TOM TURKEY, ATOM, or ATOMIZER to be used as handles.

Using `_TOM` instead will allow `ATOM` and `ATOMIZER`, but not `TOM TURKEY` because the line `_TOM` must match a space before `TOM`. Entering `_BAG_` will not allow handles containing the word `BAG`, but will allow `BAGGAGE` and `ABAGALE`, because the line `_BAG_` must match spaces on either side of the word `BAG`.

When the new user process has completely finished, the user is automatically given an access group of 0. Local callers, however, may have a way around this:

When the system is fully operational, you may configure a feature known as `AUTO CALL-BACK VALIDATION`. Auto call-back validation allows you to have your system automatically use the modem to call new users back who live within your system's local calling area, and give them a pre-determined access grouping other than zero. Use the program file `"prg.utilites"` to configure this feature. A program file like `prg.utilities` must be added to a system p-files library and executed (see chapter 11) to be usable. This feature is only available for use with the Hayes compatible and the 1670 modems. If there are prefixes of another area code besides your own that are also local to you, you must enter the second area code followed immediately by the prefix within the second area code for each such prefix (like 313981) when asked for prefixes by the `prg.utilities` configuration program.

#### 4.8 FURTHER LOGIN PROCEDURES

The following occur once a user has successfully logged on to the system (not aborted by `INSTANT` login):

- (1) the user is informed of the number of calls that he has remaining to make to the system this day (only if not an infinite number more).
- (2) the file `"sys.welcome"` will be displayed (if present on the system disk). Note: if the user used 1 following his login ID when signing on, this file will be suppressed.
- (3) the system will check the directory of system news files, to see if there are any new files to be displayed to the user. If so, they will be at this time.
- (4) if the user hasn't called since his last birthday, the system will greet him with `"Happy Birthday!"` All new users fall into this category. In addition, the system has been programmed to recognize and acknowledge several other popular holidays.
- (5) the system will offer to check all message bases for new messages. If the user selects to do so, the system will construct a table of subboard names, the number of messages on each, followed by the number of new message on each. A similar search will be offered for the file transfer subboards.
- (6) If the user has mail waiting for him, he will be given the option to immediately move to the electronic mail subsystem to read it. If the user selects to do so, he'll be taken to the e-mail system, given a list of all e-mail subjects and authors, then have the first one displayed automatically.

After all of this, the user is placed at the Main prompt.



You are able to change a user's access group, change how much time he has remaining, and toggle on or off several system features at any time without interfering with what a user is doing on the system. The online functions menu is located at the upper left corner of the status window. A function is "activated" if there is a checkmark to the left of the function's abbreviation on the menu. To move the light bar across the menu, use the left and right arrow keys (at the top of the keyboard). To activate or deactivate a function, use the up arrow key. The online functions menu is not active while the system is "thinking"--only while printing text or waiting at a command prompt.

#### 5.1 (SY) SYSOP IN OR OUT

Activating this function indicates to users that you are available for on-line conversation with them--a user requesting chat mode (using the C command) will be given the message "Ringing SysOp!" and a whistle will be made on your monitor, provided that the volume is turned up. If the function is not activated, the system will read the file "sys.sysopout" (see chapter 13 for information on how to create this file). If "sys.sysopout" does not exist, the user will simply be told that you are not available, and will be given the opportunity to leave feedback, instead.

#### 5.2 (AC) ACCESS CHANGE

When active, this function allows you to change the user's access group while on-line--sometimes known as "on-line validation." Use the left and right arrow keys to change the access group number. The access change will take effect IMMEDIATELY. However, if a user is in the UD or BBS areas, exiting to the Main command level may be required to access subboards previously inaccessible.

#### 5.3 (LO) LOCAL MODE

If you activate this function from the "waiting for call" screen, you will enter the system from "the counsel" or in "local mode" (see chapter 4 for more information). When you deactivate LO while in local mode, you will be returned to the "waiting for call" screen; your call will not be logged to disk, but the SAM data file will be updated. If you wish to have your call logged to disk, you must use the O command, instead. If you activate LO while a user is on-line, the user will be put on "hold"--he will see nothing on his screen and his keyboard will be deactivated. The system will not disconnect him, however. You will find this useful for when you wish to perform maintenance functions while a user waits on-line.

#### 5.4 (TR) TIME REMAINING

When this function is activated, you are able to use the left and right arrow keys to change the number of minutes that the user has remaining for his current call to the system. The time remaining change will simultaneously be reflected on the top line of the status window. When altering the time remaining, you may use the down arrow key to immediately bring the time remaining to 0--usually immediately logging the user off of the system. Attempting to change the time remaining for



a user with "infinite" time access may have unpredictable effects.

**5.5 (CH) CHAT MODE**

Activating this function while at any input prompt will display the message "Chatting with SysOp," and place the user into "chat mode." In chat mode, you and the user may freely type to one another until the chat mode is deactivated. When chat mode is deactivated, the message "Returning to system" will be displayed, and the user will be placed at the command prompt from which he came. While in chat mode, the user's time remaining will not decrease, and the counter of the number of minutes he's been logged onto the system will not increase.

**5.6 (NW) NEW USERS**

Activating this function will make your system a "private" system. That is, callers will not be able to use the NEW command at logon to become a user of your system--only previously registered users will be able to log on. To add new users, you may use the AA command from system maintenance, or selectively toggle the NW function when a desired user is connected.

**5.7 (PR) PRINTER**

With this function active, each complete line of text that is printed to the screen will also be sent to the printer. The printer must be turned on, and configured correctly (refer to section 3.3).

**5.8 (UD) UPLOAD DOWNLOAD**

While this function is active, all users will be denied access to the file transfer section of C-Net regardless of which access group they are a member of.

**5.9 (U1, U2) USER DEFINABLE**

Two "user definable" online functions are available. As you make modifications to C-Net, you may come across a need to be able to toggle something on and off--an easy way might be to use the online functions menu! U1 is located at peek(7519), and U2 is located at peek(7520), both in bank0. If a 0 is returned by such a peek command, the function is deactivated. If anything else (non-zero) is returned, the function is activated.

**5.10 UPLOAD CREDITS**

At times it may be convenient to add to or subtract from the number of upload credits that a user has (this appears as the number following UP at the lower left side of the status window). For instance, if a user is allowed to download 10 blocks for each block uploaded, and has overextended that ratio, and you wish to increase his "credit" while he's on-line, you may do so. Here's how: hold down the ALT key, and then use the left and right arrow keys (above INS/DEL) to add and subtract credit. The "UP" display will be replaced with an OFFSET (ranging from -128 to +127). As soon as the user enters a command at any prompt, the OFFSET value will instantly be added to his upload credit display.

#### 5.11 REMOVING THE STATUS WINDOW

The status window may be removed from (and then replaced to) the screen by holding down the Commodore key (C=) and tapping CONTROL. While the status window is gone, none of the online functions mentioned in this chapter will be operational. The idle timer and time remaining will continue to count, however. When the status window is replaced, the current command prompt on the status window may be incorrect, as it will not have changed from the time the window was removed. The status window is automatically removed when entering either terminal mode or the visual editor, and is automatically replaced after exiting. While using either terminal mode or the visual editor, the status window CAN NOT be replaced using C= Control.

Many time-saving and useful commands are available at all command prompts throughout the system. In addition, many command entry features exist to make use of the system easier.

#### 6.1 COMMANDS

Following are the commands which are available at ALL command prompts:

- AT ASCII/ColorGraphics toggle. Color/graphics mode allows users of Commodore computers using color/graphic capable terminal packages to see text and the Commodore keyboard graphic characters in all 16 colors available for text on the Commodore computers. Color/graphics mode was initially selected at login by the pressing of the backspace key. It becomes necessary, however, to sometimes toggle this mode on or off.
- AQ Activity queue. Display a list of the last 15 commands that have been used by the user. The real teleology of this command is realized by the error logging routine--when a system error occurs, the AQ is written to the disk following the error description. This information has proved to be immensley helpful in tracking down problems.
- C Request to chat. If the SY function of the online functions menu is activated, the message "Paging sysop!" will be displayed, and a whistle will be made on the system monitor. If SY is not activated, the user will be told that you are not available, and will be asked if he would like to leave feedback instead. In either case, the word "PAGE!" at the bottom of the status window will flash to let you know that the user has requested a chat with you. The first time that a chat is requested, the user will be asked for a reason why he wants to chat, which will be displayed in the status window next to the flashing word PAGE. The second and third chat requests will not prompt for a reason. If a user requests a chat a fourth time, he is obviously being a pest, so the system will inform him to "Enter 'C' to logoff the system." If the user persists and requests a chat a fifth time, he will be automatically logged off of the system.
- F Feedback. Feedback is a message sent directly to the system operator; it is often faster and easier to use than electronic mail. Feedback is read by the system operator using a command at the system maintenance command level.
- H Help. Many specific definitions of terms and descriptions of commands are available through HELP. There are several topics that the system can offer help with. After one help file has been displayed, the user is prompted for another topic. If the help topic is already known, the help command may be entered in the form HELP TOPIC. For example, entering HELP BBS will immediately supply a description of the BBS section.
- I System information. Displays the file "sys.info" from the system disk if it has been written. Generally, this file

is used to contain general information about your system--what it is running on (hardware and software), as well as anything else interesting about it. Don't forget to mention C-Net and where you got it!

- LD Last call date. A user can change his effective last call date. C-Net uses the last call date to determine which messages are new since a user's last call. Changing your last call date will change which messages are termed as "new" and which are termed to be "old." If a user logs off before he reads all new messages, he may use the "LD" command the next time he calls to move his effective last call date back.
- MS Send mail.
- NU New User. Displays the "sys.new user" that was initially displayed to the user when he logged on as "NEW" to the system.
- O Logoff. Before the user is logged off, he is asked if he really wants to. If so, he is able to first leave feedback to the system operators.
- PW Password change. A user with the proper access can change his password. Before the password may be changed, the current password must be entered, followed by the new password twice, to insure that no errors were made.
- Q Quit. Return to the main command level. If "Q" is used at the main command level, the Q command becomes equivalent to using the O command.
- ST Status. Display the user's current status on the system. A user's status includes his handle, phone number, real name, address, login ID, access group name, last call date, number of calls to the system today, number of calls he has made total to the system, and the total number of calls the system itself has ever received. In addition, a table of numbers is also displayed, which concisely details file transfer (blocks and files) and message (public and private) activity, for all that has ever occurred, for the current call, and what remains that he is still able to do on this call. If a value is infinite, a dash (-) will be substituted.
- T Time. Displays time and date information: the current time, the time of log on, the number of minutes since logon, and the number of minutes remaining on the system for this call. User accounting system information is also displayed (to be discussed more fully in a chapter to follow): the user's per minute access rate, the charges resulting from connection, a combined charges and credits figure resulting from other system activity, the user's maximum allowed negative balance, and finally his current balance.
- UI User information. Displays information about any user

account. UI may be followed by an ID number. User information given includes Login ID, handle, last call date, area code, and computer type. System operators using the "UI" command also always receive the real name, address, birthdate, phone number and access group of the account. If a UI is performed on a non-paranoid user's account, any user may view the real name, address, birthdate and phone number of that account.

- ? Summary of commands. Summary of commands that are available at the current command prompt.

## 6.2 CONTROL KEYS

There are several control key commands that are available at all input prompts throughout the system. Hold down the CONTROL key and press the appropriate letter. They are as follows:

- S Used to pause output from C-Net. In local mode, and when using many Commodore terminal packages, the CLR/HOME key may be used instead. Any key may be used to re-start the output.
- V Used to "verify" the current input line by reprinting it. If there is a lot of "line noise" interference, verifying the input line helps to insure correct input.
- W Used to delete an entire word on the current input line.
- X Used to cancel the current input line entirely, to begin from a blank line.

To abort many messages or listings, either the SPACEBAR or the / key may be used.

## 6.3 IMMEDIATE PROCESSING

There are several commands throughout the system that require "verification." That is, the system will pause to ask "Are you sure?" before executing many unrecoverable commands such as deletions, editions, logoffs, etc. You may avoid these verifications, however, by adding "!" to the end of a command which would normally pause for verification. For example, O! will logoff without asking "Want to logoff the system?" and K4! will kill the fourth post in a message base without asking "kill this post?" etc.

## 6.4 COMMAND STACKING

C-Net allows you the ability to enter several commands at once ("stack" them), by typing them all at any command prompt, substituting the character "^" (up arrow) where the RETURN key would normally be used. The character "^" is not required to separate commands which do not require a RETURN. For example, O^YN will select logoff, answer Y when asked "Want to logoff the system?" then answer N when asked "Want to leave feedback?" The only restriction is the amount of space you have to type at a command prompt.

The main command level is the "central point" of the system. From here, a user may branch to any one of the many other system command levels.

## 7.1 MAJOR SUBSYSTEMS

Following are the major subsystems available from the Main level:

- A Accounting summary. C-Net allows you to attach a charge or credit to 15 different system functions, including the use of p-files per minute, the reading of g-files per minute, per every line of text posted in the message base, per every block uploaded or downloaded, and more. See the complete description of the accounting system in chapter 13 for more detail. By using the A command from the main level, a user is able to display the amounts that you are charging (or crediting) him for each of these 15 system activities. If a sysop uses the A command, he will first be asked if he would like to edit the table of charges for all access groups. If you do not wish to use the accounting summary command on your system, simply do not have the file "prg.charges" on your p-files disk or in your RAM expander.
- B The BBS. The B command may be followed by a subboard number, or a "path" of directory and subboard numbers (eq, B3;2;7). See chapter 8 for details.
- D Dating system. The dating system must first be configured by a sysop (simply by using the D command) before other users may use the system. Once configured, a sysop may change the access group setting of the system by using the A command at the dating prompt. The configured dating system creates a new system file "sys.dating" to hold information that the users enter--age range, weight range, interests--the usual dating type of information. Only users who use the dating system become participants of the system. A user may even delete himself from participation in the dating system by using the K command. For a complete list of other dating commands, use the ? command. If you do not wish to use the dating system on your system, simply do not have the file "prg.dating" on your p-files disk or RAM expander.
- E Edit terminal parameter settings. For a review of all of the terminal parameters, consult the section concerning new user login, 4.7.
- G The general text file system. See chapter 11 for general text file system details.
- L BBS listing system. This program uses a B-tree data structure, which should allow more than 20,000 BBS listings to be entered, stored in numerical order, edited, deleted, and searched for. Each entry includes location, baud rate, and a space for comments. Whenever this program asks for a number, a literal 10 digit phone number is what is being requested, without spaces or other delimiters. If you do not wish to use the BBS listing system on your system, simply do not have the file "prg.bbs list" on your p-files disk or in your RAM expander.
- M The "electronic mail" system. See chapter 9 for a

- detailed discussion of the electronic mail system.
- N System news system. Refer to chapter 10 for a detailed discussion of the system news system.
  - P Program file system. See chapter 11 for program file system details.
  - R Relogon. Allows a user to sign off the system, and return to the initial sign-on prompt, "press your backspace key" without ever disconnecting the modem. This is useful if several users are at one place, or if users are allowed to hold multiple accounts. A user must belong to an access group with access to the relogon command (one of the several 0 or 1 settings) in order to be able to use it. One other feature that works along with the relogon feature: if a user DOES NOT have access to relogon, he simultaneously then does not have access to make "back to back" calls. What this simply means, is, that after signing off of the system, he may not sign back on to the system until either another user has had a chance to log on (and log off), or one hour of time passes.
  - UD File transfer system. Recall that no users will be allowed to enter the file transfer area if the "UD" function of the on-line functions menu is checkmarked. See chapter 12 for complete details of file transfer system.
  - UL User list system. See chapter 14 for further user list system details.
  - V The voting system. Anyone may enter a new voting topic. Topics entered by non-sysops will have to be validated before they may be voted on. Users may vote or change their votes on any topic. Once the user has voted, a tally of percentages for each vote choice is displayed. The program is fairly user-friendly and easy to use. If you do not wish to use the voting system on your system, simply do not have the file "prg.vote" on your p-files disk or RAM expander.
  - X Autovalidation. If a user wishes to be autovalidated (that is, have the system call him back by modem to verify the phone number he entered as a new user, then assign him a predetermined access group, as was described in the new user login section, 4.7), but failed to take advantage of the opportunity then, may now have a second chance to do so. To operate correctly, the auto callback validation system must be configured, the user must be in your local calling area, and he must have new user (group 0) status. If you do not wish to use the autovalidation system on your system, simply do not include the file "prg.avalid" on your p-files disk or in your RAM expander.
  - Z Edit "profile." Allows a user to change what he had previously entered as his real name, phone number, address, and even handle, without sysop intervention. This was designed to avoid the ever popular feedback "please change my handle" and "I've moved--please change my address and phone number" requests. Of course, this feature may not be suitable for your needs and system. If you do not wish to use the edit profile system on your system, simply do not have the file "prg.profile" on your p-files disk or in your RAM expander.



## 7.2 MAINTENANCE COMMANDS

Several commands that are only accessible to system operators are available exclusively at the Main command prompt:

**EX** Execute a pfile. This provides you with the ability to run a prg file without having to add it to a pfile directory beforehand. When asked for the name of a pfile, leave off the "prg." portion of the title. A timesaver!

**SM** Move to the system maintenance system (see chapter 13).

**SY** Enter the BASIC shell and Monitor. That's right--use BASIC ON-LINE! The sysop enters a mode wherein he may communicate with the BASIC interpreter directly. You may use the shell to write programs, edit programs (even C-Net programs), and even run programs. The used areas in the 128's memory banks 0 and 1 are "blocked off" from BASIC access by manipulation of the start of basic text and variables memory locations. All BASIC I/O, however, is still routed through C-Net's ML, allowing control-S pausing, SPACEBAR aborting of text output, etc. C-Net runs in COMPLETE and total Commodore screen emulation, allowing cursor movement, quote mode, insert mode, and all else. CTerm has been adapted to do the same (using CG+ mode) in order to allow the use of the BASIC shell ON-LINE! Because C-Net itself must still reside in BASIC memory, there are restrictions. These include:

- (1) Lt. Kernal commands MAY NOT be used (because of conflict of memory problems) Use DLOAD, SCRATCH, DSAVE, DIRECTORY instead.
- (2) Files #131, #6, and #4 may not be used (a CLOSE131 or CLOSE6 will disable your system completely)
- (3) Graphics/Music/Sprites will cause sure disaster! A simple matter of no extra memory to put that stuff.
- (4) Pokes/SYS calls are asking for trouble. Even SYS0 isn't guaranteed to work--this means that MCI commands are not usable. Use control codes directly within PRINT statements to move the cursor or change colors.
- (5) Approximately 85 blocks (the same as for a pfile) is the amount of BASIC workspace available. Attempting to DLOAD a file too long will crash the system.

All else should be fair game! To exit back to the Main command level, enter "q" (must be lowercase) at the first column of a BASIC input line.

The bulletin board system (BBS) is C-Net's "public message base."

#### 8.1 MOVING TO ANOTHER SUBBOARD

Your system (limited by disk space only) may house an INFINITE number of BBS subboards. Although any given list of subboards may hold only 40 entries, any or all of these may be chosen to be "directories"--paths leading to additional lists of subboards. When the B command is used from Main, the main B directory is accessed; only those subboards for which a user has access are displayed. A subboard is selected from this list by entering its number from the list at the BBS prompt (a path of directories may be specified by separating each list item number with ; ). If the subboard selected is a directory, a listing of the new directory's contents will be displayed. Other relevant commands include:

- L To redisplay the current list of subboards at any time. Directories are marked with (DIR).
- < Will return to the next previous list of subboards, if directories have been accessed.
- > Will move to the "next" subboard (numerically) on the list, if one has previously been chosen.
- J To Join or Drop the current subboard. (J followed by a number will join/drop any particular subboard) "Dropped" subboards will be skipped when using such commands as SA (scan all subboards for new posts), and > (move to next subboard). On a list of subboards, dropped subboards are marked with a "-". Joined/dropped subboards on the Main list of subboards will be "remembered" by the system for each user. Join/drop operations in directories, however, will be active only until that particular directory is exited.
- B To redisplay the current "entry file" (see sub maintenance) (recall that entry files are skipped for expert help level users).
- UD To move directly to the UD files system (avoiding the Main prompt). A subboard may be specified after the UD command in the same way that it was for the BBS system. However, entering UD alone will move to the "default" UD subboard as specified in sub maintenance.

There are reasons why a user may not be allowed access to a particular subboard he sees on the list:

- (1) The subboard has been given a password (see section 8.9), and he doesn't know what it is.
- (2) The user is either too young or too old to enter (as specified by subboard configuration).
- (3) The subboard is closed (only subboard operators may enter).

#### 8.2 MOVING AROUND WITHIN A SUBBOARD

Once "inside" a subboard, getting around and seeing what's there is easy. Simply pressing RETURN will read the first post. By repeatedly pressing RETURN, you can read through all of the posts. After reading a post, several commands are available to act on that post:

- A To view the post's header information again. In addition to the author and date of creation of the post, the author and date of creation for each response will be displayed.
- D To disable/enable responses to the post (only a sub operator or sysop may use this command)
- E To edit the contents of a post or its responses.
- N To read only the new responses of a post.
- R To re-read the post. While reading a post, pressing the SPACEBAR will skip to the next response; pressing the / key will move immediately to the "end of post" command prompt (section 8.3).
- W To change the post's title (only the author or a sub operator or sysop may use this command)
- S Scan files (display only titles and number of new responses). Scanning will continue through all posts until the SPACEBAR is pressed.

Any of the preceeding commands may be followed by a post number to act on any specific post (for example, R5 to read post number 5, etc).

### 8.3 THE END OF POST PROMPT

At the end of a post, a user may use any of several available "end of post" commands. Simply pressing RETURN at this prompt will terminate reading of the post. The end of post commands are as follows:

- A display a list of all authors, their ID numbers, and the dates the messages were written.
- D disable/enable responses for the post
- E to edit or remove parts of the message. See section 8.7 for a complete description of the Edit post system.
- O to begin reading the post over from the beginning. To begin reading from any specific response of the post, enter the response number at the end of post prompt.
- P leave a private message to any one of the authors of the post and its responses.
- Q cancel an RA or RN command in progress (see next section).
- R request to add a response to the end of the post.
- U to display information on any participant in the message.
- ! cancel the "end of post" prompts during an RN or RA.  
Note: reenable "end of post" prompts during an RN or RA by pressing the / key.

In addition, all "All Level" commands (chapter 6), such as MS, C, and F are also available at the end of post prompt.

By appending the "!" character to any read command (R, RN, RA, etc), the "end of post" prompts will be avoided entirely.

### 8.4 NEW MESSAGES

Variations of the S, A and R commands are available which act on only posts and responses new since a user's last call. They are as follows:

- AN Display header information about all new posts
- AA Display header information about all new posts in all

subboards in the current list of subboards (including subboards within directories displayed therein).

SN Scan titles of all new posts and posts with new responses

SA Scan titles of all new posts in all subboards (similar to AA)

RN Read all new posts and new responses

RA Read all new posts in all subboards (similar to AA)

To stop the SA or AA command while in progress, use the / key.  
To stop the RA command, use Q at any "end of post" prompt.

While using either the SA, AA or RA command, the system will pause between subboards to ask "Post, Quit, Exit directory, Next subboard:." At this prompt, the user may press

P to post a new message before moving on to the next subboard

Q to immediately abort the SA, AA or RA command

E to move immediately out of the current list of subboards into the next directory (if another directory had been encountered during the command progress through subboards)

N to move on to the next subboard on the current list of subboards

Note: this prompt (as well as the "end of post" prompts) will be skipped if ! was appended to the end of a SA, AA or RA command.

#### 8.5 CREATING A NEW POST

If there is sufficient storage space for a new post, the user may use the P command at the BBS prompt to post a new message. The user will be asked for a title (subject) for his post, and then asked if he would like to leave his post anonymously (if permitted by the subboard operator--see section 8.9).

Storage space note: each subboard is limited to a maximum of 718 messages, of which only 232 may be posts--the remainder may only be responses to posts.

Anonymous message note: if a message is able to be left anonymously, and the writer chooses to leave it so, a subboard operator or a user with general systems maintenance access will see an asterisk (\*) preceding the writer's handle in the message header, to show that the message was left anonymously. All other users will see "Anonymous" in place of the writer's handle and account number.

#### 8.6 KILLING ENTIRE POSTS

"Killing" a post means removing it from the subboard, along with its responses, if there are any. A subboard operator or a user with general systems maintenance access can kill any post. All other users may only kill posts written by them, and not having any responses. Before a message is actually removed, the user must verify pressing Y at a "kill this post?" prompt (that is, unless ! was appended to the end of the kill command). The K command used alone will scan through all posts that the user has access to remove, prompting for verification to actually remove each post. A single post number or a range

of post numbers may follow the K command to kill only specific posts. For example, the command K1,3;5 requests to kill posts 1, 2, 3, and post 5.

Warning: the command K! used by a subboard operator or a user with general systems maintenance access will kill all messages on a subboard without further prompting.

#### 8.7 EDITING POSTS

To edit (use the editor to change the contents of) a post, or any individual response of a post, the E command followed by the number of the post may be entered at the bulletin board system prompt. Also, the E command may be entered at the "end of post" prompt after reading a post you wish to edit.

The message edit routine will read the post, then prompt you with something like "Edit 23 0." The 23 in this example represents the post number that you are editing. The 0 represents the response number of the post--0 indicating the post itself, not a response. By pressing RETURN at this prompt, you are able to step through (reading) each response of the post. When the last response has been read, the program will begin again at the main post message. The following commands are available at this prompt to affect the message that was most recently read (and with its response number at the prompt):

- E Go into the editor to alter the contents of the message.
- R To re-read the message.
- L To obtain a list of all message headers (dates of creation and writers).
- K To kill the message. The main post may not be killed here, it must be removed with the K command from the bulletin board system prompt.
- O To change the message's "anonymous" status. An anonymous message can be made public, and vice versa.
- Q To quit out of the edit command.

Note that any of these commands (not Q, of course) may be followed by a message number to act on any particular message. The K command will also accept a range of message, such as K1,4 to kill the first four responses of a post. The command S followed by a message number may be used to "skip" to any particular message (change the prompt to another message without actually reading it).

#### 8.8 CHANGE DIRECTION

The direction used for scanning, reading, etc., (forward or reverse) may be changed at any time by using either the + or the - command by itself on a line, or appended to the end of most other commands. As an example, S- will begin to scan post titles from the last one backwards; S10- from post 10 and back, and so on. Once the direction has been set to backwards (-), only a command that uses + or the movement to another subboard will set the direction to forward once again.

#### 8.9 SUBBOARD OPERATORS

To find out who the subboard operators are of a particular

subboard, use the V command at that subboard's prompt. To request to send one of the subboard operators a private message (through electronic mail) use the M command.

The Z command will take a subboard operator or a user with general systems maintenance access to a special area of the program known as "subboard" maintenance. Following are the options from the subboard maintenance menu:

- A Add a subboard (which may be a directory). You may only add a directory to another directory (the first BBS prompt is considered the Main directory).
- D Storage status. Using this "storage status" system of the subboard, the subboard operator is able to control exactly how many disk blocks his subboard will occupy. Disk space here is measured in "records"--maybe 1 80 column editor line, 2 40 column lines, or even 40 2 character lines.

For each subboard, a MAXRECORDS setting specifies how many records maximum a subboard may contain (each 100 records in MAXRECORDS is approximately equal to 33 disk blocks). A second measure, RECORDS USED, tells you how many records have actually contained text at some point. RECORDS USED is never more than MAXRECORDS. RECORDS USED does not decrease. RECORDS USED may actually be a misnomer, because USED records are not necessarily IN USE at all times--some may currently be DELETED (no longer part of a message) records. This brings us to a third storage status measure, DELETE RECORDS, which tells you how many RECORDS out of the RECORDS USED are not currently occupied by valid subboard message text. DELETED RECORDS, therefore, will never exceed RECORDS USED. DELETED RECORDS are now available for new text posts or responses.

When a message is deleted, the number of records that it occupied is added to DELETED RECORDS. When a message is added to a subboard, it must be placed contiguously (all together, not part here, part there) in the relative file. Because messages are generally deleted in an order differing from that which they were written in, DELETED RECORDS may be found in several different places throughout the file, in varying lengths. (If two adjoining messages are deleted from the message base, their lengths are summed as one larger DELETED RECORDS location). The file measure LARGEST AVAILABLE is simply the largest patch of DELETED RECORDS among all DELETED RECORDS. This is important to know since only contiguous deleted space is any use, because a message may only be placed contiguously.

Now, in determining the maximum of editor lines that should be made available to a user writing a message, we have two limiting factors--the number of "unused records" (that is, MAXRECORDS - RECORDS USED) and the LARGEST AVAILABLE patch of DELETED RECORDS. If either is greater than 100, 100 will be the limit for the editor. If neither is greater than 6, the user will not be able to write his message, given the error "not enough disk space." If everything else is still in check, the greater

of the two will then be used.

To add to the number of max recordss, hit Y at the "change max recs:" prompt.

- K n Remove a subboard (like Add, you must not be "inside" a subboard)
- L Redisplay the current list of subboards.
- Q Quit out of subboard maintenance.
- R Reorganize text. This command will attempt to re-write the entire subboard relative file, moving all DELETED RECORDS patches contiguously to the end of the file, so that they may all be used together for new messages. Reorganizing text may take some time! Once finished, you may have to re-set maxrecs from the storage status option. Reorganizing a subboard is only necessary if "DLine entries" shows a high number (typically more than 200).
- S n Scan file titles
- X n To transfer posts to any other subboard. This can be very handy if your users have a habit of always posting to the wrong subboard! You must know the name of the subboard (exact) as well as its drive/LU location in order to transfer posts to it.
- Z Entry file. A subboard's "entry file" is the file that is displayed upon entering that subboard. This option allows a subboard operator to create the file, or to edit its contents. If the editor system is "aborted" here, the user is asked whether he would like to erase the contents of the entry file.

To edit an individual subboard's information (or "detail"), enter its subboard number at the sub maint prompt. Entering a number too high will default to the currently active subboard. The following items are editable here:

- B The subboard's name. From here, a password may be attached to a subboard--only users knowing the password will be permitted access to the subboard. To attach a password, append the character @ followed by up to 8 UPPERCASE letters to the end of the subboard title. For example, a subboard "Joe's Board" can be given a password TEST if "Joe's Board@TEST" is used instead as its title.
- G Groups which may enter the subboard
- W Write access (groups which may post or respond--certain groups may be allowed to enter a subboard but not allowed to post).
- S Subboard operators. Up to 6 subboard operators may be specified for any one subboard.
- I Inactivity. C-Net is able to (using automaintenance, section 13.11) automatically remove posts and responses after they have been on the system for a specified number of days. No automatic deletion will occur if this option is set at 0.
- D Device and drive used for the subboard
- L Lines max. The maximum number of lines that may be used in the editor (posting/responding) for this subboard. The minimum of an access group's ED



- setting (section 3.5) and Lines Max will be the value used for the editor. (Recall: may be limited further by file space).
- A Anonymous disable. If this flag is set to 'yes' then users will not be able to post or respond anonymously.
  - C Closed. If this flag is set to 'yes' then other users will not be able to enter the subboard temporarily. This feature would normally be used if the subboard operator is doing work on the subboard.
  - M MCI disable. If this flag is set to 'yes' then users will not be able to use the MCI commands (section 15.9) while in the editor writing posts or responses.
  - T Totally anonymous. If this flag is set to 'yes' then all messages posted and responded will automatically be left as anonymous. A non-anonymous message will not be allowed.
  - R Responses disabled. If this flag is set to 'yes' then users will NOT be allowed to respond, only post. Certain subboards operate better in "linear" fashion.
  - Y The youngest age of a user who will be allowed access to the subboard.
  - O The oldest age of a user who will be allowed access to the subboard.
  - l Selection of the default UD subboard (when UD is used from the BBS system). Semicolons (;) may be used to select movement through directories.

The electronic mail ("e-mail") subsystem is C-Net's inter user private message exchange system. Access to the e-mail subsystem is controlled by a flag in an access group's configuration. Entering the e-mail subsystem, the user is told how many messages there are waiting for him, and of those, how many are new since his last call.

#### 9.1 SCANNING MESSAGES

To obtain a list of the messages a user has waiting, the S command (or alternatively, the L command) is used. A message number may be added to the end of the S command to begin listing at any specific message. E-mail messages are always displayed in the order in which they were received.

#### 9.2 READING MESSAGES

If you haven't read any of your messages yet, simply pressing RETURN will display the first of them. Each consecutive RETURN will cause the following message to be displayed. Pressing RETURN after the last message has been displayed will display the message "that was the last message." Pressing RETURN yet again will begin the cycle through the messages once more.

To read any specific message, simply enter its number at the MAIL prompt. Other relevant commands are as follows:

- A To read the last message Again
- E To edit the last message. This allows system operators to enter the editor and "put" (using .P) an email message or graphic into a file for later use.
- M To forward the last message to another user's account.  
You received mail that someone else can better deal with?  
No problem, forward it!
- N To read all new messages without prompting
- R Respond to the sender of the last message
- U To display information about (see section 6.12) the user who wrote the last message
- X To read all of your mail without prompting

Note that the E, M, R, and U commands may be followed by a message number to act on any specific message (eg, R3 to reply to message number 3 on the list).

#### 9.3 SENDING A PRIVATE MESSAGE

To send e-mail to another user, use the MS command at the MAIL prompt, as you would from any other prompt. See the appropriate section in chapter 6 for more details.

#### 9.4 KILLING MAIL

The K command may be used to kill all of your mail. Any specific message may be killed by appending a message number to the end of the K command. The system will verify a kill request unless ! is used following the command.

After responding to a message that the sender has requested be returned with your response (see the appropriate section in chapter 6 concerning the MS command), it is at the same time removed from your account.

#### 9.5 VERIFYING MAIL

To "verify" mail means to read, edit, or kill mail that you have previously sent. Often verifying is useful to check on whether a user has replied to or killed a message that you've sent to him. To verify another user's mail, use the V command from the MAIL prompt. Follow the V command with a user's account ID number if it is known. If an account number does not follow the V command, the system will request either a handle or a user ID for mail verifying. Appending ! to the end of an account number here (such as the command V!!) will avoid having the system prompt something like "Is Big Brother correct?" to insure that you have the right account number. If the verified account contains no messages (or no editable messages) you will be returned to the MAIL prompt. You may only verify messages that you have written. If you are a system operator, however, you may verify any message on the system. If editable messages exist, a list will be displayed. Messages may now be read, edited or killed.

#### 9.6 ELECTRONIC MAIL MAINTENANCE

The following commands are only available to access groups with System Maintenance access.

Y[N] n     Y will display all e-mail that is on the system. The YN command will display only the e-mail that is new since your last call. You may specify an account number to begin reading from. The spacebar will abort at any time.

D           Display and edit the status of the e-mail relative file. The e-mail relative file operates exactly as do the message base relative files. See section 8.9 for these details.

A program module "prg.fixemail" has been provided for you on the C-Net master disk. Execute it from a p-file library (chapter 11) if any problem occurs with the e-mail relative file (that is, illegal quantity errors in the e-mail subsystem). This program will attempt to salvage as many e-mail messages as possible from the disk error. If problems persist or worsen, the e-mail relative file may have to be completely restarted. One of the menu options in "prg.utilities" will perform this task. If the e-mail system must be restarted, all inter-user messages will be lost.

The news subsystem is where all system news files and news bulletins are written and read. All new news messages are automatically displayed to a user as soon as he signs on. Only news files that a user has access to will appear to him on the list of news files. If there aren't any accessible files at all, the user will be told "the news subsystem is empty" and be returned to the MAIN prompt. System operators, of course, may enter the news subsystem at all times.

#### 10.1 SCANNING NEWS FILES

Use the S command to display the list of news file titles, the dates they were created, and, for system operators, the access groups and message "type's" (to be discussed soon) for each. Follow the S command with a file number to begin scanning at a specific news file. Messages which have been posted with future dates, and are not yet accessible by any users, are marked with an asterisk (\*).

#### 10.2 READING NEWS FILES

To read a specific news file, enter its file number at the NEWS prompt. By appending a news file number to the end of the N command from the MAIN prompt, any specific news file may be displayed immediately upon entering the news subsystem.

#### 10.3 NEWS MAINTENANCE

The following commands are only accessible by access groups with system maintenance access.

A Add a new news file. A title and the access groups must be selected for the file. In addition, there are three news file "types" that must be chosen from:

UNAB unabortable. When a user reads this news file for the first time, he will be unable to abort it by using the spacebar.

RECU recurring. The file will be displayed to users as they log on, whether the file is "new" for them or not. In addition, the first time it is displayed, it will be unabortable as well.

NORM normal. This is the default news file variety. The news file will be displayed only once (abortable) when new.

After using the editor subsystem to write the text of the news file, you must select two "date offsets" for it.

The first is the number of days by which to alter the "posting" date. Simply pressing RETURN here will use today's date as the date of creation for the news file. Entering a positive number (in days) will hold the news file invisible to users until the specified number of days has gone by. You may instead enter a negative number to have it seem that the news file was created any number of days in the past.

The second offset may be used to specify the life span of

the news file in days. Simply pressing RETURN here will cause the news file to remain indefinitely (until it is killed, section 10.4). Entering a postivle number (of days) will cause the file to be automatically deleted (by automaintenance, section 13.11) after that number of days from TODAY's date.

K n Remove a specific news file.

E n Edit any part of an existing news file. By pressing RETURN when asked for either a new title or news access coding, the old value is retained. Next, you must select again if the file will be force-read or recurring. You may NOT press RETURN here to retain old values--what you enter will replace the file's previous "type" status. Then, the editor subsystem may be used to change the file's contents. After exiting from the editor, you then have the option to reset the dates (post date, and auto-delete date) of the file.

C-Net's program file (p-file) and general text file (g-file) subsystems operate similarly, so will both be covered in this chapter.

P-files are actually BASIC program "modules" that may be used "on-line" with C-Net. This ability gives C-Net "unlimited" expandability. A p-file must fit into memory (bank 0) along with the C-Net main program (file "cn") and C-Net's machine language routines. With the "cn" file at its present size, this means that approximately 80 blocks are available for p-file use. If "cn" expands (possibly by your modification), this leaves less room for a p-file. P-files may actually be one of two types:

The first type are "C-Net specific" p-files. Such a file only runs while INSIDE C-Net 128--it generally cannot be loaded directly into your computer and executed. This is the case because C-Net specific p-files make many calls or "references" to subroutines contained within C-Net's machine language drivers--without C-Net in memory, your computer will not be able to interpret these p-file's intentions. For example, whenever such a file wishes to output text to the screen, it must assign that text to the variable A\$ and then call SYS0: A\$="HELLO":SYS0. Such a file must begin at line number 61000. All C-Net features, like the MCI, and access to the user's account information variables are available. These p-files must be careful to avoid unintentionally reassigning system variables--using the wrong variable can corrupt user or system data! All of the "program module" p-files that come with your C-Net (prg.maint, prg.logon, etc) are C-Net specific.

The other type of p-file, a "stand alone" p-file, is likely something you will feel more comfortable with. These files may begin at any line number (except for 61000), and may use any combination of other line numbers and variables without worry of corrupting system data. This type of file is written like any other kind of BASIC program for your computer that you've likely seen, except C-Net will let your users run it "on-line!" The one drawback is that C-Net routine calls such as to MCI are not available here. For a better idea of what to AVOID when adding a stand alone BASIC file to your BBS, see the SY command in section 7.2.

No matter which type of p-file a p-file is, it must have a filename beginning with "prg." and be placed either on your p-files disk or into your RAM expander.

G-files are sequential text files that contain readable information, such as stories, program documentations, BBS number listings, color/graphic animations, or whatever you wish to use them for. G-files may be created by using a word processor to write them, capturing them into a buffer using a terminal program, or by downloading them from another system.

### 11.1 SCANNING THE FILES

S n Display the current list of files (beginning at file n).

Subdirectories on the list will be identified with a description of "(DIR)." The current subdirectory title will be displayed at the beginning of this list.

### 11.2 SELECTING AN ENTRY

To read a g-file, or to run a p-file, simply enter the file's number at the prompt. If you choose a subdirectory, it will be opened, and the new list displayed (section 11.4). If a disk error occurs while attempting to read or execute a file, C-Net will report the trouble and then return to the prompt.

Most g-files and "stand alone" p-files can be aborted by pressing the space bar.

### 11.3 MAINTENANCE COMMANDS

The following commands are available to access groups with general systems maintenance access.

- A Add a filename to the current list of files. You must supply the following information:

File title	should be entered EXACTLY as it appears on the disk directory; you may omit "prg." for p-files.
Subdirectory (Y/N)	see section 11.4
File description	what it is, where it came from
Access groups	see section 3.7
Add to end of list	if you select 'no' C-Net will attempt to add your filename alphabetically to the list.

Following apply to g-files only:

Disable wrapping (Y/N)	normally when C-Net is to print a word which won't completely fit onto the end of the current screen line, it will move to the next line first--this option PREVENTS this from occurring--usually necessary for animation ("movie") files.
Disable line-ins (Y/N)	normally when C-Net DOES print at the end of a line, a new line is automatically "inserted"--this option will prevent this--usually necessary for animation files.
Disk device, LU	if you don't enter a device number here, C-Net will use the default "g-files disk"

E n Edit any part of a file's listing.

K n Kill a file from the current list. A subdirectory may not be killed until all of its contents have first been killed.

X n Move a file to the end of the current list.



For convenience, several maintenance commands are also available here, identical to those in the system maintenance subsystem. They are as follows (see chapter 13 for details of usage):

```
$   Disk directory
D   Change work disk
M   Copy files between drives/LU's
R   Read a file
W   Write or edit the contents of a file
```

#### 11.4 SUBDIRECTORIES

A subdirectory is a list of files "within" an entry on a list. Use the A command to add a subdirectory. To move into your new subdirectory, simply enter its number from the current prompt. Files can now be added this new "list within a list."

< Exit the current subdirectory, and return to the list of files that came before.

Here is a subdirectory map for files in a sample p-files area of a BBS:

```

      sysops' (DIR)      games (DIR)
        |                |
+-----+-----+      +---+-----+
|         |         |      |         |
| user edit | weed | mazes (DIR) | board games (DIR) |
|         |         |      |         |
|         |         |      +-----+
|         |         |      |         |
|         |         |      | maze maker | maze puzzler | checkers | monopoly |
|         |         |      +-----+
+-----+-----+      +---+-----+
```

If you know a certain path you wish to take through a subdirectory map, you may specify the path following the P or G command from the MAIN level. For example, using the above subdirectory map, entering P2;2;1 from MAIN would run the program "checkers" directly. A command like P1 could also be used to go directly to the sysops' subdirectory, and still be able to choose between user edit and weed.

#### 11.5 P-FILES PROVIDED FOR YOU

Several maintenance support p-files have been supplied on the C-Net master disk for your use. None of them are necessary to operate the software--they have been provided to perform useful maintenance tasks.

Prg.weed is a user file clean-up utility. You are able to specify the number of days that a user may go without calling the system before he will be "weeded" out by prg.weed. You are able to begin the clean-up at any specific account, and have the option to verify deletions by pressing Y or N.

Prg.fix\_email has been designed to go through all system e-mail, searching for readable messages. All messages found to be unreadable are removed from the system. Try this p-file if you experience illegal quantity errors while attempting to read email. After using the utility, you will have to re-set the

maxlines pointer using the Z command from EMAIL.

Prg.utilities contains routines that must be used to configure auto-maintenance (section 13.11) and auto call-back validation (section 4.7). Prg.utilities also contains a couple of routines that help your system to recover from many serious errors. The routines and when to use them:

re-create pointers file--if ever your system has trouble finding user's account during logon or in email sending--most likely your sys.pointers file is messed up. This option will re-do the sys.pointers.

re-start email--if you are plagued by illegal quantity errors and the like while attempting to read email, and have tried the "prg.fix email" utility, you may completely re-start your email system by using this option.

Prg.collect has been designed to search a disk for files that are not readily recognizable as C-Net files. The utility will then prompt you whether to delete each of them, one by one. This can be helpful if you have large directories and lose track of which are useful files!

#### 11.6 PROGRAM FILE LINKAGE SUPPORT

If you write a program module of your own, or are converting from other's files, there are a couple of conventions that you should use. For a C-Net specific p-file, you should GOTO5650 to exit the module. Stand alone BASIC files may simply use END statements. Using this convention, the user will then conveniently be placed at the last p-files prompt. In a C-Net specific p-file, to avoid variable conflicts, the following system variables should not be altered by external program modules: kk\$,ld\$,ms\$,tz,li,dt\$(),ed\$(),nn\$(),d\$(),br. In addition, user and system data variables such as na\$, id, ph\$, pw\$ and bd\$ should not be used. Stand alone p-files, recall, may use any variables they please.

The upload/download system (UD for short) is C-Net's "file transfer area."

There are two types of UD subboards available: the "restricted files" type, and the entire disk "exchange" type. A UD subboard is by default of the restricted files type unless its title ends with "/e" (as in "Trading Post/e"), telling C-Net the subboard is of the entire disk exchange type. Each type has its own advantages:

A restricted files subboard keeps track of files, and only those files, "uploaded" to it (by explicitly using the U or UM command). It's able to store the name of the uploader, the date of uploading, the number of times it's been downloaded, and a description for each file. Other restricted files subboards and even system files may reside on the same disk or logical unit without worry of their possible corruption or unauthorized use. Each restricted files subboard may be home to 143 files.

An entire disk exchange is very different. A user in an exchange may get a disk directory directly by using the \$ command, and may download any file contained therein. This ability is useful for "trading" disks and for other general maintenance. Because of its nature, an exchange may not store any information about the files. Generally, when a disk is used as an exchange subboard, that disk should be used for NOTHING else.

#### 12.1 MOVING TO ANOTHER SUBBOARD

Your system (limited by disk space only) may house an INFINITE number of UD subboards. Although any given list of subboards may hold only 40 entries, any or all of these may be chosen to be "directories"--paths leading to additional lists of subboards. When the UD command is used from Main, the main UD directory is accessed; only those subboards for which a user has access are displayed. A subboard is selected from this list by entering its number from the list at the UD prompt (a path of directories may be specified by separating each list item number with ; ). If the subboard selected is a directory, a listing of the new directory's contents will be displayed. Other relevant commands include:

- L To redisplay the current list of subboards at any time. Directories are marked with (DIR).
- < Will return to the next previous list of subboards, if directories have been accessed.
- > Will move to the "next" subboard (numerically) on the list, if one has previously been chosen.
- J To Join or Drop the current subboard. (J followed by a number will join/drop any particular subboard) "Dropped" subboards will be skipped when using such commands as SA (scan all subboards for new files), and > (move to next subboard). On a list of subboards, dropped subboards are marked with a "-". Joined/dropped subboards on the Main list of subboards will be "remembered" by the system for each user. Join/drop operations in directories, however, will be active only until that particular directory is

exited.

- UD To redisplay the current "entry file" (see sub maintenance) (recall that entry files are skipped for expert help level users).
- B To move directly to the BBS message system (avoiding the Main prompt). A subboard may be specified after the B command in the same way that it was for the UD system. However, entering B alone will move to the "default" BBS subboard as specified in sub maintenance.

There are reasons why a user may not be allowed access to a particular subboard he sees on the list:

- (1) The subboard has been given a password (see section 12.9) and he doesn't know it.
- (2) The user is either too young or too old to enter (as specified by subboard configuration)
- (3) The subboard is closed (only subboard operators may enter)

## 12.2 MOVING AROUND WITHIN A SUBBOARD

Once "inside" a restricted files subboard, getting around and seeing what's there is easy. Simply pressing RETURN will display information (uploader, date, statistics) about the first file (or first NEW file if there are new files since your last call). The first line of information contains the file's "number" its name, its filetype, and its length in Commodore blocks (254 bytes each). By repeatedly pressing RETURN, you can "step" through all of the files. After viewing the information about a file, several commands are available to act on that file:

- A To view the file's information again.
- AU To receive information about the uploader of the file
- D To download the file (see section 12.5)
- E Add to a file's description file (if permitted in the subboard)
- R To display the contents of the file. Commodore 64 or 128 BASIC files will be displayed to the screen as if they were loaded into the computer and listed--these files are actually "listed" from disk! Other program type files will be displayed as a "monitor" dump--listing of hex bytes followed by their ASCII interpretations. Sequential files will be displayed in ASCII straight to the screen, as any C-Net "sys." would be.
- W To write a private message to the uploader of the file.
- \* "Select" the file (see section 12.6).
- S Scan files (display only titles, filetypes, and sizes). Scanning will continue through all files until the SPACEBAR is pressed.

Any of the preceding commands may be followed by a file number effect any specific (for example, D5 to download the file number 5, etc). Advanced variations of the preceding commands include:

- AN Display information about all new files
- AA Display information about all new files in all subboards

in the current list of subboards (including subboards within directories displayed therein).

SN Scan titles of all new files

SA Scan titles of all new files in all subboards (similar to AA)

In an exchange subboard, a directory of the disk may be obtained by using either S or \$. Selecting files for multidownloading is again \*.

### 12.3 UPLOAD AND DOWNLOAD PROTOCOLS

A "protocol" defines the communication scheme between two computers, such as the readiness to receive or send, error detection, and error handling. C-Net 128 currently supports six protocols for the transfer of files:

- (1) New Punter (most Commodore terminals use this)
- (2) Xmodem (most other computers use this...)
- (3) Xmodem/CRC (...or this)
- (4) WXmodem (windowed--able to send continuously)
- (5) ASCII (straight--control S is the only protocol)
- (6) Ymodem (Xmodem/CRC in 1024 byte packets)

A "default" protocol is chosen as a new user, and may be changed by using the E command from Main. To change the active protocol while in the UD system, the P command may be used. NOTE: WXmodem may have limited compatibility with other WXmodem terminal programs. It may be the case that WXmodem may only be used for downloading on certain IBM compatible system terminal programs.

### 12.4 SINGLE FILE UPLOAD

"Uploading" in the scope of a BBS refers to users sending files TO the system. The U command allows a user to upload to your system. A upload may be refused for one of several reasons:

- (1) In a restricted files subboard, 143 files are already present.
- (2) Less than 30 blocks are free on subboard's disk.
- (3) A user has uploaded as many files per call as his access group permits.
- (4) The accounting system charges for uploads and the user hasn't enough money.
- (5) The user doesn't have access to "write" to the subboard.

Regardless of configuration, subboard operators and users with general systems maintenance access are always given the option to add a password to a file in a restricted files subboard.

Using the U command in local mode (or while LO is activated on the online functions menu) will allow you to enter a file's information DIRECTLY into the system without actually uploading.

During transfer, the ESC key from your keyboard, or Control-X from the user's will abort the procedure. Also, digital

counters are kept of the number of good and bad blocks experienced--blocks size here is that of the protocol--Punter and ASCII are approximately 1=1 Commodore block, Ymodem is 1=4 Commodore blocks, and all Xmodems are 2=1 Commodore block.

#### 12.5 SINGLE FILE DOWNLOAD

"Downloading" in the scope of a BBS refers to a user RECEIVING files from your system.

In both types of upload/download subboard, the D command is used to download. The system may deny the user the ability to download a file for several reasons:

- (1) The file is unvalidated (see section 12.8).
- (2) The user has already downloaded the maximum number of files allowed per call for his access group.
- (3) In a restricted files subboard, the user does not have enough time remaining to completely download the file. An estimated time of download is obtained for the file taking into consideration the length of the file, the connect baud rate, and the protocol that will be used.
- (4) If a U/D block ratio is used for the user's access group, the user has downloaded more blocks (DB) than the product of the number of blocks that he has uploaded and the U/D ratio (UB X RATIO). A user may always download another file (of any block length) until DB becomes greater than UB X RATIO. Once this happens, he must upload enough blocks until UB X RATIO becomes greater than DB.
- (5) If the accounting system is being used, and the user hasn't enough money and/or credit to pay for the download.
- (6) A user's access group doesn't have receive access for the current subboard.

Subboard operators and users with general systems maintenance access may ALWAYS download and upload files. Furthermore, files that these individuals download and upload are NOT written to any logs, given credit for in the block exchange system, and are not charged for (or credited for) if the accounting system is in use.

Using the D command while in local mode (or with LO activated) allows you to copy a file to any specified disk drive. This can be very handy when your system runs on a hard drive, and you wish to transfer uploaded files to a floppy for use or testing on another computer.

#### 12.6 MULTI-FILE TRANSFER

"MultiFile" transfer saves time by allowing a groups of files to be selected and transferred all at once. In order to take advantage of multifile transfer, a user must be using a terminal program which supports C-Net multifile abilities. In general, multifile is restricted to users of Commodore terminal programs with Punter protocol.

The UM command is used to multiupload in either type of subboard.

As mentioned in previous sections, the \* command is used to select files for multidownloading. \* is also used to "unselect" previously selected files. Several files can be selected/unselected at once in a restricted files subboard by using the comma and semicolon separators (eg, \*5,7;9 to select files 5,6,7 and 9). Additional related commands are as follows:

- SS Scan the titles of all selected files. A summary is also displayed, including an estimate of the total time needed to download all of the files. To unselect a specific file from this list, use \* followed by the number on the list and then the ! (exclamation point, eg, \*4!).
- DS Download all of the selected files. You are given 20 seconds to ready your terminal to receive. As each file is downloaded, it is automatically removed from the list of selected files. The ESC key will abort the process (control X from the user's end).
- \*C Clear the entire list of selected files.

Using UM in local mode (or with LO activated) in a restricted type subboard allows you to select directly from the disk those files you wish add to the subboard. DS in local mode allows you to copy all selected files to any device/logical unit.

## 12.7 KILLING AND EDITING FILES

A subboard operator or user with general systems maintenance access may use the K command to kill a file in an entire disk exchange subboard, or K followed by the file number in a restricted files subboard. A range of file numbers may also be specified, such as K2,5 to kill files 2 through 5.

When files are killed, an option is given to have files scratched from the disk at the same time they are removed from the listing, or to leave them on the disk. In either case, any existing associated information files are always scratched. An option is also given to have killed files "archived." Archived file names and other information associated with them are added to an "archive list." To receive a list of archived files from the current subboard, use the AR command. Generally, an archived files list is used by users to prevent old files from being re-uploaded.

A subboard operator or user with general systems maintenance access may use the E command to change the name of a file in an entire disk exchange subboard, or E followed by the file number to change the description line of a file in a restricted files subboard. In a subboard configured to use information files, any user with write access to the subboard may use the E command to "add" to the file's information file.

## 12.8 VALIDATING FILES

If file validation is enabled (see section 12.9) then each file uploaded may not be downloaded until it has been "validated." This feature is only available in the restricted files type subboard. A subboard operator or user with general



systems maintenance access may use the Y command to validate a file, or use the YA command to have C-Net display all unvalidated files one at a time, giving the user the option to validate or to kill each one.

## 12.9 SUBBOARD OPERATORS

To find out who the subboard operators are of a particular subboard, use the V command at that subboard's prompt. To request to send one of the subboard operators a private message (through electronic mail) use the M command.

The Z command will take a subboard operator or a user with general systems maintenance access to a special area of the program known as "subboard" maintenance. Following are the options from the subboard maintenance menu:

- A Add a subboard (which may be a directory). You may only add a directory to another directory (the first UD prompt is considered the Main directory).
- E n Edit the title/uploader, etc. of a file
- G Restart the transfer log
- I n Edit a file's information file
- K n Remove a subboard (like Add, you must not be "inside" a subboard)
- L Redisplay the current list of subboards.
- P Protocol usage summary. Version 4.0 keeps track of the number of times each file transfer protocol has been used as well as the average "seconds/block" for each file transfer over 10 blocks long. Using this information, it formulates an "average" seconds/block time that it uses to estimate the time needed to download files. C-Net actually "learns" to make accurate estimations.
- Q Quit out of subboard maintenance.
- S n Scan file titles
- X n To transfer a file to any other subboard. This can be very handy if your users have a habit of always uploading to the wrong subboard! You must know the name of the subboard (exact) as well as its drive/LU location in order to transfer a file.
- Z Entry file. A subboard's "entry file" is the file that is displayed upon entering that subboard. This option allows a subboard operator to create the file, or to edit its contents. If the editor system is "aborted" here, the user is asked whether he would like to erase the contents of the entry file.
- I Restart the archive list.

To edit an individual subboard's information (or "detail"), enter its subboard number at the sub maint prompt. Entering a number too high will default to the currently active subboard. The following items are editable here:

- B The subboard's name. From here, a password may be attached to a subboard--only users knowing the password will be permitted access to the subboard. To attach a password, append the character @ followed by up to 8 UPPERCASE letters to the end of the subboard title. For example, a subboard "Joe's

- Board" can be given a password TEST if "Joe's Board@TEST" is used instead as its title.
- G Groups which may enter the subboard
  - I Inactivity. C-Net is able to (using automaintenance, section 13.11) automatically remove files after they have been on the system for a specified number of days. No automatic deletion will occur if this option is set at 0.
  - W Write access (groups which may upload and add to descriptions--certain groups may be allowed to enter a subboard but not allowed to upload).
  - R Receive access (groups which may download)
  - S Subboard operators. Up to 9 subboard operators may be specified for any one subboard.
  - D Device and drive used for the subboard
  - V Verification. If this flag is set to 'yes' then uploaded files will not be allowed to be downloaded until a subboard operator has used the Y command to verify them.
  - C Closed. If this flag is set to 'yes' then other users will not be able to enter the subboard temporarily. This feature would normally be used if the subboard operator is doing work on the subboard.
  - A Activity log to disk. If this flag is set to 'yes' then file transfer activity from the current subboard exclusively will be written to a file. Use the AL command from the UD prompt to display the file. It will contain the file name, blocksize, user's handle, his ID number, and U or D for upload or download.
  - F Information files. If set to 'yes', C-Net will allow uploaders to use the editor subsystem to write file descriptions instead of the 70 characters. This option should be used carefully--each information file requires another disk directory entry, which is usually only feasible for use on a hard drive. The E command followed by a file number may be used to add to an existing information file.
  - L Log to central u/d file. If this flag is set to 'yes' then activity will be written to the file that is displayed by using the U command in system maintenance (chapter 13).
  - P Password protection. If set to 'yes', will allow uploaders to attach a password to their files. Users attempting to download password protected files must know the password in order to do so. Subboard operators are given the password when an A command is performed on the file.
  - H Hardcopy to a-log @a-maint. The activity log ('A' option above) may be automatically written to a printer and then restarted on disk during automaintenance (section 13.11) if this flag is set to 'yes'.
  - Y The youngest age of a user who will be allowed access to the subboard.
  - O The oldest age of a user who will be allowed access to the subboard.

- 1 Selection of the default BBS subboard (when B is used from the UD system). Semicolons (;) may be used to select movement through directories.

Users with system maintenance access also have several system maintenance commands available to them here, identical to those in the system maintenance subsystem (SM from Main). They are (see chapter 13 for details of usage):

\$ Disk directory  
D Change work disk  
M Copy files between drives/LU's  
R Read a file  
W Write or edit the contents of a file

Access to the maintenance system is controlled by a flag in the access group configuration. The maintenance system should be reserved for use by the system operators ("sysops") of the system.

### 13.1 DOS SUPPORT

The prompt at the system maintenance command level contains the device and drive (logical unit) number of the default disk drive. Commands such as Readfile and Writefile will access the default disk drive unless you explicitly specify otherwise. Initially, the default disk drive is set for 8,0 (that is, device 8, LU 0). The command D followed by a space, and then a drive specification, may be used to change the default disk drive. A drive specification must be of the form U,L where U is the device's unit number, and L is the drive or logical unit number. For example, "D 9,1" changes the default drive to device 9, logical unit 1. When applicable, a maintenance command may specify any disk drive by placing a space and a drive specification immediately following the command. In this chapter, a drive specification will be written [ds] and is OPTIONAL--if not specified, the default disk drive will be used. Other DOS commands include:

- / [ds] s      Send a disk command, where "s" stands for any text string. If this text contains SPACES, you should enclose the text within quote marks (""). The "s" abbreviation will be used in following command descriptions. (Note the optional drive specification.)
- \$ [ds] [s]    Disk directory. "s" here stands for a filename pattern (using \* and ?). The [] show that specifying a pattern is optional.
- B            Display blocks free on all disk drives. C-Net normally reads the actual blocks free on all devices when the system is first set up and after each 5th user logs off. An individual disk's block free count is updated by C-Net when a write (or scratch) is performed to that disk. If you wish to force C-Net to update the blocks free NOW, use B! instead.
- M ds s      Copy files. Here, "ds" is the target or COPYTO disk. The source or COPYFROM is the default disk drive, thus a "ds" must be specified. "s" consists of the pattern of files to copy. Using \* will default to ALL files. C-Net will ask Yes/No before copying any file. Relative file copying IS supported. During file copy, the current block number being copied is displayed. When copying a relative file, this current RECORD number (not block number!) is displayed.

### 13.2 READING SEQUENTIAL FILES

- R [ds] fn [+] Read any sequential file from disk. (Don't forget to enclose the filename within quotes if it contains a space!). Add (after a space) "lp"

to the command to force read the file as a PROGRAM file (BASIC or HEX DUMP), or "+b" to force read the file as a BASIC file.

### 13.3 CREATING OR EDITING SEQUENTIAL FILES

W [ds] fn Write a sequential text file. If a file exists with that name, C-Net will attempt to read the file into memory so that you may change its contents and re-save it to disk. You must use this to edit menu files, or to create your "sys.welcome" "sys.start" etc.

### 13.4 READING FEEDBACK

Use the V command to display the feedback left by users, or the N command to display the new user information left by users during the new user login procedure. Each message is displayed beginning with a header, containing the user's name, ID number, real name, phone number & birthdate, and date the message was sent. At the end of each message, there are several one key options available:

A	Again. Read the same message over again.
E	Edit. Edit the user's entire account (delete it, change his handle, etc.)
G	Group. To change the user's access group.
K	Keep. To keep the message after others are gone
N	Next. Go on to the next message (the message will be deleted if you select Yes to delete messages).
R	Reply. Send a private message in response.
S	Send. Send the message to any user's e-mail account (your own account included).
Q	Quit. Abort and return to the system maintenance command prompt -- no messages will be deleted.

Due to memory constraints, the commands Again, Keep, and Send may only be used before a Reply command.

### 13.5 ACTIVITY LOGS

The L command is used to display the call log. For each caller successfully logged off, one line is written to the call log. First on the line is the "caller number" -- from the time that the system was set up. Next is the signon date and time (24 hour time), and the signoff time. Following that is the user's account number, his handle, real name, an connecting baud rate. What comes next is a set of two abbreviations, telling how the user logged on and off of your system. Abbreviations you will find are the following:

AVL	(the system called the user back using auto call back validation)
AER	(the system attempted to call the user back, but failed to connect)
NEW	(through the NEW command from signon)
SON	(normal logon ID and password)
INS	(using the CONTROL key from local mode)
REL	(use of the R command from Main).

Signoff methods:

REL	(the R command from Main was used).
SOF	(user entered 0 to logoff).
CAR	(the user simply hung up).
INS	(the user used 01 to hang up).
TIM	(the user's time ran out while on line).

Finally, the last information contained within the call log consists of a series of 10 numbers. These are SAM activity values. They stand for (in order) (note that seeing a \* in the log instead of 0-9 indicates more than 9):

1	Feedback	2	Email	3	Mail to ID1
4	Posts	5	Responses	6	Gfiles read
7	Pfiles ran	8	Errors	9	Upload files
0	Download files				

Use the SAM command to display all of the System Activity Monitor's (SAM's) registers, just as they appear on the "waiting for call" screen. Use the SAM! command to restart the SAM period registers before they are displayed.

Use the SG command to display the System Activity Graph--the same graph viewed as screen three at waiting for call.

Use the U command to display the main UD file transfer activity log. UD subboards must be individually selected from their subboard maintenance sections to have their activity written to this log.

When a system error occurs, the time of occurrence, type of error, current BASIC line number, the name of the currently resident p-file, and the ID of the user who was logged on when the error occurred are logged to the file etc.errlog on the etcetera disk and/or are printed to the printer (depending on configuration, see section 3.3). Use the E command to read etc.errlog if it exists. Once an error has been logged, the user is told the error type and BASIC line number of the error, then placed at the main command level.

C-Net will keep a log of everything that occurred during the last automaintenance occurrence (see section 13.11) in the file "etc.altlog". Use the > command to display this file. Everything that is "displayed" will NOT be written to this log. Its purpose is mainly to inform you of deletions (user weeds, message and file weeds) if they are not logged to printer. Various other deletions and "editions" may also be written to this log to inform you of other "destructive" user activity.

### 13.6 ACCOUNT EDITING

Use the A command, or A followed by an account number to edit any variable of a user's account. A user's account may also be deleted entirely using this command.

### 13.7 FORCED MAIL FILES

A forced mail file is a file that is read to a user as soon as he signs on to the system. Forced mail may not be aborted.

To create a forced mail file for a user, use the MC command. To remove a forced mail file, use the MR command.

There are four meta-commands that may be used in a forced mail file. Each command used must be placed on a line by itself.

- %e will erase the forced mail file from the disk once it has been displayed.
- %o will disconnect the user from the system once the forced mail has been displayed.
- %s will "suspend" the user from the system until a specific date. The date should be placed immediately following the %s command in YYMMDD format, such as %s890601 for June 1st, 1989.
- %f will give the user the option to leave feedback before continuing with the forced mail file.

#### 13.8 FUNCTION KEY DEFINITION

You may define the eight function keys found at the top right corner of the keyboard. Use the W command to create a sequential file called "sys.fkeys" on your system disk. This file must contain no more than eight lines, one line for each function key. You may use the arrow key at the top left corner of the keyboard to represent a carriage return. The length of all function keys combined must not exceed 254 characters. You are not required to define all eight of the function keys.

#### 13.9 SYSTEM CONFIGURATION

You may display or edit your system's access group configuration by using the G command. All variables are presented on the screen as they are in the system configuration program. "Max" is the maximum minutes per day, etc.

After setting the system up, you may change the current date and time by using the X command. This may be useful if the system has set itself up after a power failure.

#### 13.10 TIME RESTRICTIONS

You may restrict your board from access by particular access groups or restrict access to the UD area by particular access groups during certain hours of the day. Also, 300 baud may be excluded from either at any hour. To edit the current time restrictions, use the . (period) command. Once the screen has been displayed, enter the hour number for AM or hour number followed by a letter P for PM hours. When asked for access groups, use the standard format (, and ; separated).

#### 13.11 AUTOMAINTENANCE

Automaintenance is a very powerful C-Net feature which allows your system to perform several maintenance functions at a specified time each day. Set this time from the general parameters screen of system configuration (see section 3.3). C-Net will limit callers before this hour to insure that



automaintenance occurs at the proper time. Automaintenance must occur each day--so the file prg.amaint must be placed on your p-files disk or into your RAM expander at all times. The functions that automaintenance MAY perform include:

- (1) News file weed. If you selected for a news file to be deleted after a specified number of days when you added it, it is automaintenance which checks the news directory and removes old files.
- (2) Message base subboard weeds. If any of your subboards have "inactivity day" settings, automaintenance will search for and remove old posts and old responses to posts from those subboards.
- (3) File transfer subboard weeds. If any of your UD subboards have "delete days" settings, automaintenance will search for and remove old files from those subboards.

Additional automaintenance features that may be enabled by using the "prg.utilities" menu option include:

- (1) User weed. Automaintenance is able to perform a check for users who haven't called for a specified number of days, and delete them. A starting account number and an access coding (weed only certain groups) may also be specified.
- (2) Display SAM table, with the option to reset the period column on a specific day of the week, or every day.
- (3) Display the System Activity Graph, with the option to reset the graph to all zeros on a specific day of week, or on every day.
- (4) Display and delete the call log.
- (5) Display and delete the error log.
- (6) Display and delete the feedback.
- (7) Display and delete the new user information.
- (8) Display and delete the main file transfer log.
- (9) Validate (COLLECT) a series of disk drives.

If your printer is connected (and powered on), C-Net will print everything that has been chosen to be "displayed." In this manner, you may have your call log printed and restarted, automatically, each day.

### 13.12 ACCOUNTING SYSTEM

You may use C-Net's accounting system to "charge" users or to give them "credit" for thirteen items:

- 1) each minute connected to the system
- 2) each minute using the "p-files" section
- 3) each minute using the "g-files" section
- 4) each line of post in the bulletin board system
- 5) each line of response in the BBS
- 6) each 20 lines read in the bulletin board system
- 7) each line of private e-mail sent
- 8) each 20 lines of e-mail received
- 9) each block downloaded
- 10) each block uploaded
- 11) each minute using the UL (user list) system
- 12) each vote cast in the vote system

13) each BBS added to the BBS list system

For now, ignore references to "expansion" charges--they may be used sometime in the future for new system features.

To edit these charges, use the A command (prg.charges) from the main level, and then press Y at the "edit charges?" prompt. Each group of users may have a set of charges different from the other groups. The numbers you enter here are by default CHARGES (that is, subtracted from the user's account balance) unless a number is made negative, in which case that amount is made a CREDIT (that is, added to the user's account). In addition, these numbers are in units of 1/10000ths (one ten-thousandths) of a dollar, or 1/100ths of a penny. For example, the number 1000 represent a dime, the number 33 about a third of a penny, the number -250 a two and a half cent CREDIT. All charges except the first (per minute access) may be edited at this screen, and only this screen. To change per minute access, you must use the G command (edit access group data) from system maintenance, or the access group configuration screen of the system utilities program. The "\$/Mn" option (per minute access) works the same way as the other charges (in 1/10000 of a dollar) except it may NOT be a negative number--you may not credit users for access to the system. The maximum value for per minute access is 9999, which is \$0.9999 (very close to \$1)

In order to track each user's "spending" and "savings," each user's account is given a BALANCE. The RANGE for a user's balance is from -\$49.99 to +\$49.99. When a new user logs on, his balance is set to \$0. To manually alter a user's balance, you must use the A (account edit) command from system maintenance, or the E command while reading feedback or new user information. The balance here is represented in CENTS (1/100 of \$1). Give a user a balance of 2500 to represent \$25.00, or -50 to represent a balance of -\$0.50. Remember, the balance must be within -4999 and 4999 at all times.

One other thing--in order to restrict the extent to which a user's balance may drop below zero (be negative), you may specify a MAXIMUM DEBT (\$Dbt) for each access group. This option appears on the access group configurations screen (the G command here, or with system utilities). \$Dbt, like the balance, is measured in CENTS. \$Dbt may only be positive, from 0000 to 9999. A value of 3400 represents a maximum debt of \$34.00 (a minimum balance of -\$34.00). Because a user's balance may not drop below -\$49.99, a \$Dbt setting of anything above \$49.99 will still allow a user to "spend" until that debt value on a given call to the system, but after he signs off, his balance will be re-set to the lowest value, -4999 (-\$49.99). Also, if credits are accumulated above \$49.99, the balance will be limited to 4999 (\$49.99). This may be useful if you want to run the accounting system, but never actually RESTRICT the user from access.

If you are charging a user for access to your system (per minute access is not 0), access time to the system will be restricted if the user doesn't have enough money in his

account. In addition, before a user is able to perform any function with a CHARGE attached to it, his balance will be examined. If he hasn't enough money, that function will be denied. A user may display the amounts that you are charging (or crediting) him for each system function by using the A command from the main level. The T command, will, in addition to displaying the time and date information, display information about the users balance and charges. Here, the per minute access charge is given for the user's access group, and the charges that have been incurred for this call due to this charge. A composite total of charges and credits for all of the other system functions is given in a value "other charges." The access charges and other charges are summed to produce a "cost of this call" value. Taking these charges into consideration, the user is then informed of his remaining balance. In addition, he is given his maximum credit (\$Dbt) value, telling him how far below \$0 he may spend.

You may, of course, actually use this system for money--add money to a user's account when he sends you a check or something. However, the entire accounting system may simply be used as a type of CREDIT system, where the credits are in units of dollars and cents. When used as a credit system, the possibilities for control over user activities are endless!

For example, if you wish to allow an access group to be able to download exactly 6 blocks for every block that he uploads, with no "free" blocks at all, simply set that group's per block uploaded CREDIT to -600, and per block downloaded CHARGE to 100. Also make sure you don't allow a DEBT value (set to 0000). \$0.06 is credited when a block is uploaded, and \$0.01 is charged when a block is downloaded. You may set these charges and credits to tenths or hundredths of a penny, but, remember that the user's balance will be rounded to the nearest penny when he logs off. If you want to give the user 10 "free" blocks to begin with, for this example, set the \$Dbt value for his group to 0010 (\$0.10).

Many other relationships such as this one may be established through the accounting system--post a certain number of lines in the BBS before downloading so many blocks, upload so many blocks before being able to use so many minutes worth of time in the p-files section, etc.--be creative!

Using the user list system, you are able to perform a search for a very specifically defined group of users, list accounts data in tabular form, or simply display a list of handles.

#### 14.1 OUTPUT ORDER AND TRAVERSE DIRECTION

Searching and listing of accounts can be performed in either alphabetic user handle order, or in user ID number order. Alphabetic handle order searches and listings cause C-Net to have to jump all around the user data file according to the alphabetic order of your user's handles--THE BORDER, then THE BOSS, then THE BOTHER, etc. To perform an ID number order search or listing, C-Net merely has to move through the user data file in a sequential manner--account number 1, then 2, etc. If you are searching your entire user base for an end list of matching accounts that is anticipated to be very small, ID number searching is generally much faster and easier on the disk drive than is alphabetic searching.

You also have an option to move through (traverse) the data in either ascending or descending order. Descending order will search and list in DECREASING ID number order or alphabetic handles order.

#### 14.2 QUICK LIST

You are given the option to perform a simple "quick list" by selecting Y at a prompt "List handles & ID's only?" This type of searching and listing is generally much faster than a normal search because only the handle of each account is read from the disk and displayed. If search restrictions are set for the search, the quick list's speed benefits are lost, however, because C-Net must again examine entire user records to see if restrictions are satisfied.

#### 14.3 SEARCH RESTRICTIONS

You may set search restrictions on a listing to find specified characters within a handle or real name, access group, computer type or area code. Only system operators may set restrictions on characters in the real name and access groups. A very elaborate combination of these fields may have restrictions set upon them. A list of the fields that may have restrictions set upon them will be displayed to pick from. Press RETURN when asked for another restriction variable to end the "set" of restrictions.

A search may consist of several "sets" of search restrictions. An account is matched and displayed if it matches the restrictions set in ANY one of the search sets that is specified (an OR condition). When you do not wish to specify another set of restrictions, press RETURN when you are asked if you want "Another set of restrictions?"

Any given set of restrictions will only be matched if every variable component of the set is matched (an AND condition).

Each variable of any given set may have one or several possibilities of text to match because you may set multiple restrictions on the same variable of any given set. Each restriction of the same variable in a given set is taken as an

OR condition.

With this ability, it is possible to search for such combinations as:

```
      (set 1)
ACCESS = 5  OR  ACCESS = 7
      AND
AREA = 313  OR  AREA = 517
```

--- OR ---

```
      (set 2)
ACCESS = 1  OR  ACCESS = 2
      AND
NAME = TOM  OR  NAME = JIM
```

#### 14.4 WHERE THE SEARCH BEGINS

If the search is by ID number order, you must specify a user account number to start listing or searching from. If the search is alphabetic handle order, you must specify a handle to begin listing or searching from. For example, entering D would begin with users whose handles begin with D, entering THE would begin with users whose handles begin with THE, etc.

#### 14.5 THE LISTING

Before the search begins, the set restrictions information is summarized. Once the search has begun, user information is displayed across the screen in tabular 80 column format if the user's defined column width is 80, or will display down the screen in several rows if the user's defined column width is anything less than 80. The ID number, handle, last call date, phone number, access (under the A column), computer type (under the C column), real name, and birthdate are displayed. If the user performing the search is not a system operator, and a user whose account is being displayed has selected that he is paranoid, the phone number will only display the area code, and the real name and birthdate will not be displayed at all. Only system operators will be able to see the access group at all times.

The search ends when either the end of the user data file has been reached or the user hits the space bar or / key. When the search is finished, the user is returned to the main command level.

C-Net's text editor is 100% machine language to provide fast, powerful text entry and manipulation. The editor resides in the file "proto 7." The maximum number of available free lines in the editor is determined as the minimum of several factors: (1) access group configuration (section 3.5), (2) for the electronic mail and message subboards, according to the amount of free disk and file space (section 8.9), (3) in the message subboards, the maximum number of lines to use (section 8.9 also).

When a user runs out of time while in the editor system, he is not immediately logged off of the system. The system waits until he has finished, or until the user's idle time expires.

The editor system works with "dot commands." To execute an editor command, you must press a period (.) at the beginning (first column) of any line. The editor system will then prompt you for a command by displaying "Edit:." If you press another period here, "Edit:." will disappear, and a period will actually be entered at the first column. Pressing BACKSPACE or any non-command letter will cancel the "Edit:." prompt. As an example, pressing . followed by > will allow you to change the right hand margin for text manipulation and shaping functions.

#### 15.1 ENTERING/SAVING TEXT IN THE EDITOR

The S command (after a period at the first column, remember) is used to save your text. The A command is used to exit the editor as if it were never entered, without saving anything (Abort). Attempting to save (S) from the editor when there is no text to save, or disconnecting your modem, is equivalent to aborting. The N command may be used to erase all text, then to start over.

To read any C-Net compatible file into the editor, use the G (Get) command. Follow the command with a valid filename. The default drive unit is 8. Follow the filename with a comma then an alternate unit specification if necessary. For example, TEST,10 will read a file from disk unit 10. Similarly, the P (Put) command is used to save the text from the editor into a sequential file. Alternate device specification may be used as with the G command. Prefix the filename with a plus sign (+) to append to an already existing sequential file. These functions are only accessible by system operators.

Normally, C-Net echoes each character that it receives back to the user. When sending text quickly to C-Net (or any other BBS program), with each character echoed (as when dumping a capture buffer into the editor), these echoed characters may interfere and cause the input stream to become garbled. To suppress character echo in the editor, use the Q (Quiet mode) command. Use the Q command again to re-enable character echoing. While in quiet mode, only editor commands will be echoed.

A feature available to users using Commodore color/graphics mode, who wish to add color to their message, is the ability

to directly enter the appropriate color codes (by holding down the C= or control key and pressing a number from 1 to 8). The color black may not be used. Reverse on and reverse off are also supported in this manner. These control codes are "imbedded" into the message, and each counts for 1 character on a line. Backspacing over a control code automatically cancels whatever effect the control code had on the text.

#### 15.2 SEEING WHAT HAS BEEN ENTERED

Use the R command to READ the text. Read will print text as it will appear as a formatted message (see section 15.6). Use the L command to LIST the text. List prints lines exactly as they were entered, except that it will print the line number before each line and a reverse video left arrow at the end if that line marks the end of a paragraph (see section 15.6). The M command is used exactly like read, except text is put through C-Net's Message Command Interpreter (MCI) described in section 15.9. Not specifying a range for the R, L, or M command will cause all text to be displayed.

#### 15.3 MANIPULATING TEXT

Use the D command to delete lines from text. Not specifying a range will cause the D command to delete only the last line of text.

The E command is used to EDIT lines of text. Not specifying a range will cause the E command to edit the last line of text. As a line is edited, the original line is printed, and the user is free to re-enter the line. By holding down the CONTROL key and pressing U, you are able to "re-type" the character that is directly above the cursor. If RETURN or backspace is hit at the beginning of an edited line, no change will be made. To abort a range of lines as you are editing them, press the period key at the first column to display "Edit: Exit" and then press RETURN.

The K command is used to REPLACE lines. What is entered (even a blank line) will replace the old line(s). If no range is specified, the K command will replace the last line of text. To abort a replace range, press the period key at the first column to display "Edit: Exit" and then press RETURN.

The F (Find) command is used to SEARCH for a string of characters within text, and the \$ command to search and then REPLACE that string with another string of characters. The search and replace commands will not locate text that begins at the end of one line and continues on to the beginning of the next. The \$ command also can NOT be used to change MCI commands to other MCI commands, or to add new MCI commands. Follow the command with the range of lines to search (and replace) within. The command will then prompt you for a string to search for (and one to replace with).

The C command is used to COPY text. This command will copy a selected line range to the end of text, or to the insert point if insert mode is on.

#### 15.4 INSERT MODE



The I command, followed by a line number, is used to INSERT text before that specified line number. If no line is specified, inserting will occur at the beginning of text. All subsequently entered lines will be placed at the point of insertion. To exit insert mode, and to begin placing lines at the bottom of text once again, use the X command.

#### 15.5 LINE NUMBERS

It is sometimes convenient to be prompted with the current line number as each line is entered. The O command is used to turn LINE NUMBERING on and off. When you are in insert mode, the letter I will be displayed before the line number where insertion will take place.

#### 15.6 WORD WRAPAROUND/TEXT FORMATTING

Word wraparound is automatically enabled when the editor is entered. The W command is used to turn WORD WRAPAROUND on and off. When word wraparound is on, a word which will not fit onto the end of a line you are entering is automatically brought to the next line to be finished. When it is off, the editor will beep when the end of the line has been reached.

C-Net has been designed to automatically format text for the current user's column width, so as to avoid broken words at the end of lines, regardless of what column width it was written with. To effectively accomplish this, it is necessary that the editor system know where paragraph breaks are. Whenever the RETURN key is pressed in the editor, it is assumed that the user is at the end of a paragraph, and will at this point in the text, always perform a carriage return during output. Conversely, all lines which required a word to be wrapped to the next line will be taken as paragraph body, and will be printed as to fill the current reader's column width as far as possible. The T (Toggle) command may be used to place or to remove paragraph markers from specific lines. Use the R (or M) command to preview your text as it will be read by others using your same column width. Remember that the L command prints lines which mark the end of paragraphs with reverse arrows at the ends of them.

#### 15.7 SHAPING THE TEXT

The B command is used to place a BORDER around the entire text. C-Net will first check to see that there are two free lines for the top and the bottom border lines.

The J command is used to JUSTIFY text. There are five ways to justify text: left, right, center, expand, and pack. After pressing J, L must be pressed to left justify text (move to the left border), R must be pressed to right justify text (move to the right border), C must be pressed to center justify text (move to the center of the screen), P must be pressed to pack text (remove all extra spaces between words), or E must be pressed to expand text (insert spaces between words to align text along both the left and right margins--sometimes called FLUSH justification).

#### 15.8 SPECIFYING A LINE RANGE

For many editor commands, such as deleting, editing,

justification, replacing, reading, and listing, a line range may be specified. After pressing the command letter, enter the range in one of the following formats (replace x and y with valid line numbers):

x	line x only
,y	from beginning to line y
x,	from line x to end
x,y	from line x to line y
x;y,z	line x and line y to line z
w,x;y,z	lines w-x and lines y-z

#### 15.9 MESSAGE COMMAND INTERPRETER (MCI)

The MCI is used to change the text color in color/graphics mode, create special effects like backspacing, ask questions in the middle of a message, etc. The character that is used to trigger the MCI is the english pound key (the key to right of the minus key and to the left of the CLR/HOME key). Outside of the editor system, this key may not be used in input. Within the editor system, only users with access groups configured to use MCI may enter this character. In addition, certain message base subboards may be configured to not allow the use of the MCI commands. Only high level access groups and system operators should be given access to the more powerful MCI commands, as it is easily over used and misused. These commands can be placed anywhere in the text. The # has been used in place of the English pound sign in these explanations. MCI commands are always used in the form #Xn where X is a valid command letter and n is a single digit number immediately following the command letter.

An access group may be configured with no MCI ability, limited MCI ability, or unlimited MCI ability. See section 3.5 for access group details. Set the option 'MCI/I' to give a group limited abilities, set the option 'MCI/II' to give a group unlimited abilities, or set neither flag to not give any abilities at all. Commands that only unlimited MCI access (MCI/II) users may use are marked with ! here.

**#A1** ! disable the use of either the spacebar or the / key to abort the current message.

**#Bn** print n beeps (chr\$(7)) to the user.

**#Cn** change the text color in color/graphics mode. For any one of the 16 Commodore colors, replace n with the character indicating the color:

0 black	1 white	2 red	3 cyan
4 purple	5 green	6 blue	7 yellow
8 orange	9 brown	J pink	K grey 1
L grey 2	M lt green	N lt blue	O grey 3

On the 128, 8 is dark purple, and K is dark cyan.

**#Dn** ! After a T (test) MCI command, branch to label n if test failed (see the M MCI command for information about labels).

#En ! After a T (test) MCI command, branch to label n if test succeeded (see the M MCI command for information about usage of labels).

#F0 Move the cursor to the home position (don't clear).

#F1 Clear the screen and move the cursor to the home position.

#G1 ! stop printing until a character is pressed. The key pressed will go into the variable an\$, converted to uppercase if necessary.

#Hn print n backspaces.

#In ! stop printing until a line is input (RETURN is pressed). The line inputted will go into the variable an\$, converted to uppercase if necessary.

#Jn ! Jump directly to label n. See the M MCI command for more usage information.

#Kn turn KOLORIFIC mode on and off. 1=on, 0=off. Kolorific mode changes the text color (cycles through each of 15 colors, no black) as each character is printed.

#Ln ! turn the printer on and off. #L1 for on, #L0 to return the printer to its original state (maybe ON, if the PR on-line function menu option is selected).

#Mn ! A label, n. This command "marks a spot" in a message. For example, #T3 is used to test whether the user is a sysop or not, then #EA is used to jump if this is true. #MA must be used to mark the spot to jump to. The label can be just about any character. A label must FOLLOW a J, E, or D command--that is, jumping in reverse is not permitted.

#Nn print a number of CARRIAGE RETURNS or new lines.

#On toggle flash mode (128 graphics terms only). 1=on, 0=off.

#Pn ! change the printing mode to one of the following:

- 0 Normal printing
- 1 Print each character then backspace then character
- 2 Print each character, 8 spaces, then 8 backspaces
- 3 Print each character then backspace over it.
- 4 Print each character, rub it, then character
- 5 Print each character then space and back line end

#Q1 cancel all MCI modes (print mode, color changes, flash, underline, reverse video, etc.)

#Rn reverse video control. 1=RVS on, 0=RVS off. Note that a carriage return also cancels RVS mode.

**#Sn** | change output speed. N is the number of 1/20 seconds between each character.

**#Tn** | test variable or condition, where n is the following:

- 1 AN\$. Testing for AN\$ must end with an additional # to mark its end--#T1A# tests for AN\$ beginning with A, etc.
- 2 Access group. The character following the number 2 will indicate the access group to compare the current user's group number with. @ represents group 0, a (lowercase) represents group 1, b represents group 2, etc., through lowercase o. For example, #T2g#EA jumps to label A if the user on line is group 7.
- 3 Sysop access. This is used in menus, etc, to block sysop only commands.
- 4 Color graphics. Will test TRUE if Commodore C/G modem is enabled.
- 5 80 columns. Will test TRUE if 80 columns is being used.

**#Un** | toggle underline mode on and off. 1=on, 0=off. (128 graphics terminals only).

**#Vn** | print a variable. N may be:

- 0 Current date and time
- 1 Last call date and time of the user
- 2 Handle of the user
- 3 Real name of the user
- 4 Phone number of the user
- 5 the variable a\$
- 6 the variable b\$ (subboard number for entry files and number of callers for sys.welcome)
- 7 the variable an\$ (last #G1 or #I1)
- 8 the variable d2\$ (subboard name for entry files, or "morning," "afternoon," or "evening" for use with sys.start and sys.welcome files)
- 9 the variable d3\$ (last caller for sys.welcome)
- j the user's password
- k current access group name

**#Wn** | wait a number of seconds.

**#X1** | immediately exit the message.

**#Y1** | Disable automatic word wrapping. This command is usually essential for messages which contain much cursor movement, animation, etc.

**#Zn** | toggle to the "up-cursor" mode, to use the graphics characters on the right side of the keys and uppercase (no lowercase). 1=uppercase and graphics, 0=uppercase and lowercase.

**#^n** | Move the cursor up n lines.

**#\_n** | Move the cursor down n lines.

#<n Move the cursor left n columns.

#>n Move the cursor right n columns.

#-n Insert n blank spaces at cursor location.

## Actually print a #.

Note that the MCI commands may be placed one after another on a single line and anywhere in the middle of any text. If a branch command is encountered, but not taken, the rest of the line after the branch will still be executed.

The MCI commands can not only be placed in messages, but anywhere in the program if you are modifying it. For example, if you are making a routine which requires a four second pause, you can use #W4 in any output (SYSO) statement.

Following is a sample message containing MCI commands that will ask a user if he is interested in a board event. If he is, he will be asked questions which will be printed to the printer, otherwise the message will be aborted.

```
Hello #V3##W1, I mean #V2!
Are you interested in the board dinner? #G1#T1Y##EC#X1
#MC#L1
I am glad that you can make it #V2.
How many people are you bringing? #I1
Do you have access to a car? #I1
#L0
Ok, Thanks again, #V2, a SysOp will be contacting
you at #V4...
```

#### 15.10 ANSI VISUAL EDITOR

A very powerful feature of the C-Net 128 is its ANSI visual editor implementation. The V command is used to enter the visual editor. It may always be used in local mode, but may only be used on-line if the caller is using an ANSI compatible terminal emulator program, and has selected 80 columns, ANSI terminal, and non-color graphics mode. ANSI terminal emulators are available for most personal computers. Once in the visual editor, full cursor movement is possible throughout the document. There are several control code commands available in the visual editor. They are as follows:

Control X Exit the visual editor mode and return to the standard line editor.

Control K Kill the current line and pull all following text up one line.

Control L Insert a blank line at the current cursor position moving all following text down one line.

Control I Insert a single space at the current cursor position. (Shift INS/DEL from local mode)

Control D Delete a character at the current cursor position.  
That is, pull text into the cursor. (Hex \$FF DEL may  
be used from remote)

Control H Backspace and pull text back one space, deleting the  
preceding character. (Most terminals have a  
BACKSPACE key or INS/DEL from local mode.)

Control R Reprints the current line only to verify its  
contents or to mend damage caused by line noise.

Control S Clear and re-print the entire screen from the  
beginning of the text buffer.

Imbedded color codes may not be used while in the visual  
editor. If any such codes exist in a message that is edited  
with visual editor, they will appear on the screen as "^" (up  
arrow) characters.

For convenience, the C Net BBS is equipped with a built-in terminal program. To activate the terminal, you must first be at the "waiting for call" screen and then press the ESC key. Soon, the CTerm menu will appear. When CTerm is active, the status window will be removed, and can not be replaced using the C= CONTROL feature--it will reappear automatically when you exit CTerm (by using the Q command). One note: A five minute "idle timer" runs while CTerm is active--if you fall asleep during a long file transfer, not to worry, C-Net will exit CTerm and reset itself automatically.

#### 16.1 CONNECTING TO A REMOTE SYSTEM

To call out with a Hayes compatible or 1670 modem, enter terminal mode by pressing "T" from the CTerm menu, then use the modem commands (ATDn) to dial and connect.

To call out with any other type of modem, you must call with a phone connected to the same line before entering CTerm. When CTerm is activated, the modem will pick up the line. The "Hang up" option from the CTerm menu may be used to hang-up and then to dial another location.

There are several terminal parameter commands available while "inside" the terminal mode. To activate one of the following commands, hold down the ALT key (next to the TAB key) and press the appropriate letter.

- B Baud rate (BPS). (300, 1200, or 2400).
- T Terminal type. (ASC, C/G, CG+). ASC mode will allow you to connect to and use Apple, IBM, and other ASCII/ANSI systems. Many useful VT-100 features (for use with visual editors) are implemented here. C/G mode is standard Commodore Color/Graphics mode (cursor colors, cursor movement, etc., useful for viewing "movie" files). CG+ mode is an extension of C/G mode. CG+ imitates the Commodore screen editor COMPLETELY, which means when you type at the end of a line, a new line will automatically be inserted, and when you type a quote, all control codes will then appear in reverse video, and so on. In order to use another BBS's On-Line BASIC shell mode (SY command), you must be in CG+ mode.
- C Capture. Toggles the capture buffer on and off. To view the contents of the buffer, etc., you must exit terminal mode and select the Capture Buffer menu.
- E Echo. (Term or Chat) In addition to the normal term mode (everything arriving over the modem is displayed on the screen), a "chat" mode is also provided in terminal mode. Use chat mode when the system you are connected with does not echo back characters that you type (that is, it is a half duplex system). Chat mode will not only display everything that comes in over the modem, but everything that you type, as well.
- X Exit. Exits the terminal and returns to the CTerm menu.

#### 16.2 OTHER PARAMETERS



CTerm's other terminal parameters (O from CTerm menu) include:

Input linefeeds. (required or automatic). This feature applies only to the ASCII/ANSI terminal mode. Some ASCII systems you call may expect your cursor to move to the beginning of the next new line when they send your terminal a carriage return (hOD), that is, "linefeeds" are assumed automatic. Other systems, however, only expect your cursor to move to the beginning of the SAME line when carriage return is sent, so they go on to send a linefeed (hOA) to actually move your cursor down to a new line. In this later example, linefeeds are "required."

Output linefeeds. (Sent after CR, or not sent). If output linefeeds are enabled, a linefeed character (hOA) will be sent to the system you are connected to after each carriage return (hOD) has been sent.

#### 16.3 UPLOADING AND DOWNLOADING

To receive (download) files, press D from the CTerm menu. To send (upload) files, press U. Multi-file transfer is available for use with systems which support it. CTerm will ask if you wish to send a single or multiple files when you use either the D or U command. Use the CTerm menu option "Change Xfer Drive" to select which disk drive will be used for file transfers. To change the protocol used for file transfers, use the P command from the CTerm menu.

#### 16.4 DISK OPTIONS

As disk options in system maintenance work on a common "work disk," all disk options in CTerm work on the U/D drive (chosen with the "Change Xfer Drive" command from the CTerm menu). Disk options supported at the CTerm menu are:

- \$ Disk directory.
- / Command to drive. Use something like s0:hello to scratch the file hello from logical unit (drive) 0, or s3:sam to scratch the file sam from logical unit 3, or n0:diskname,id to format a disk in drive 0.
- R Read sequential file. When reading a sequential file, you are given the option to simultaneously send the file to the modem. This can be useful to upload a prewritten message to an editor.

#### 16.5 CAPTURE BUFFER

A terminal text buffer allows you to "capture" text as it is received. Captured text may be saved to disk for use at a later time. The maximum size of the capture buffer is approximately 20K, or 20,480 bytes. Press C from the CTerm menu to receive the menu of capture buffer options. Options here include:

Toggle open/close. To "open" the buffer means to allow it to capture text as it comes from the modem. A closed buffer does not capture text.

Clear buffer. Erase the contents of the buffer.

Save buffer to disk. The capture buffer may be saved as either SEQ, PRG, or USR file format.

Load buffer from disk. PRG, SEQ, or USR files may be reloaded for viewing, editing, etc.

Print buffer. When the capture buffer is displayed, the option is given to send the file simultaneously to the modem. This is useful to send a message received from another system. While the capture buffer is being displayed, output may be paused or aborted.

Edit buffer. The buffer may be transferred to the editor subsystem to be altered. A couple of restrictions apply: the editor holds a maximum of 250 lines -- anything past that, if "saved" (editor .S command) will be lost. Also, each line is limited to 78 characters -- anything past that will be cut off, or forced onto another line.

#### 16.6 PHONEBOOK/AUTODIALER

CTerm is able to store up to 200 phone numbers, each with a board name, default baud rate, terminal type setting, and a record of the date of your last "connect" to the system. To use the autodialer, press A from the CTerm menu. A small menu will be displayed, along with current option settings and a count of the number of BBS numbers in memory.

To add a new BBS to the phonebook, press A. You'll have to supply the name of the BBS, and its phone number (numbers only, include a 1 if necessary). In addition, you must specify whether the BBS is Color/Graphics, and whether or not you'd like to use your long distance carrier service when calling the BBS. Two macros may also be custom set for each BBS -- one assigned to the F7 key, and one to the F8 key. To represent a RETURN character in a macro, use the "left arrow" key located to the left of the "1" key. To make your additions "stick" you must use the S (save) command.

To edit an existing entry, press E. You will then have to enter the name of the BBS (only as many letters as are necessary to distinguish it from the others). Press RETURN when the BBS name you want is displayed. You will be able to change any part of the data associated with the entry, as well as be given the ability to remove it from the list. To make your changes "stick" you must use the S (save) command.

To change autodialer options, use the O command. These include: tone or pulse dialing, the number of seconds to wait for a carrier to be received after dialing a number, how many times the number should be re-dialed if there is no connection, and a long distance carrier service. A long distance carrier service may consist of a local access number, followed by a pause (usually a comma), then an access code--for example "4538800,,768686" will call 4538800, pause until a carrier is heard, and give the code 768686 before dialing a phone number.

To autodial a BBS, press D. You must then enter the name of the BBS, as many characters as necessary to unambiguously select it. When its name is displayed, press RETURN. CTerm will redial the entry as many times as specified by the autodialer options until connection is obtained. When connected, CTerm will move to terminal mode at the specified

baud rate and beep a few times to alert you. While CTerm is autodialing, you may press the space bar to abort and return to the phonebook screen.