C∗Base
v3.3
User's Guide

`$Revision: 801 $`

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1 Introduction

This program is the result of several years of hard work and experience of the C∗Base BBS-program[1] and more than three hundred hours of documentation. Curious of the ins and outs of a BBS program, I obtained my first copy of C∗Base from Trasher of Active (thanks!) This was a cracked version of the v3.0 release, without any modifications, apart from some stupid renaming of the files. My very first impression of this program, was that while was utterly slow, it seemed very thought through and suitable for "Scene"-BBS:es (even though it was not intended for the scene, but rather for "normal" BBS:es).

After a while I got a copy of v3.23 (actually, I borrowed the original together with manuals, but without any dongle). My very first move was to locate, and of course remove, the dongle-protection. Next, I began modifying the BASIC-code, adding small things that the original author obviously had missed out, and changed things that were, from my point of view, implemented in a bad way.

Rather soon, I decided to open a BBS of my own. This became Virtual Light. My equipment was a C= 128 with Jiffy-DOS, a greenscale (yeuch!) 80-character/row monitor, a CMD hard-disk, a C= 1571 disk-drive, a C=1581 disk-drive, and an Aprotek 2400 mini-modem.

In the beginning, I had virtually all of the old features left in the **"C/BBS"** file, but many users complained about this; many were annoyed by the phone-number identification, for instance. This was one of the first things I removed. I also removed all support for modular up-/download-areas, subs etc., together with the support for the modular term-program.

After a while I realised that one of the reasons that C∗Base was so darn slow, was that its main-code is written in BASIC. Now this may seem obvious, but in fact, it is not the speed of the BASIC itself, but rather the size of the BBS-program that caused the problem. The C= 64 kernel has a VERY weak garbage-collection routine, causing the memory to become cluttered with strings (and arrays, for that matter) after quite a short time. This forces the BASIC to collect garbage (remove unused string copies). This takes time; thus the BBS "freezes" until it's done.

To remedy this, I decided to remove all BASIC-code I deemed unnecessary. First, I removed the modules (no-one used them anyway) and the libraries (they too were of little use, really). I also fixed some minor bugs while doing this, and added some personal touch to everything. After a request from Rug-Rat/Alpha Flight, I also added SuperCPU support, suddenly turning his BBS from a slow

[1] Originally programmed by Gunther Birznieks

dinosaur to a speed-monster where users were forced to use auto-pause to be able to read every post in the subs (given, of course, that the BBS-computer had a SuperCPU connected).

However, this was not enough. The BBS still was too slow for my taste, mainly because I did not have any SuperCPU (and neither did Taper of TRIAD, who, after his opening of Antidote, became my crash-test dummy when beta-testing was needed)...

Since the machine-code parts of C∗Base had been written in machine language, rather than assembly, and undergone several modifications already, there was quite some reduntant code, some of it redundant on purpose to make removal of the dongle-protection harder. This made me take on the tedious work of rewriting all of the machine-code in assembly language, speed-optimising the code while at it.

While developing C∗Base v3.3, I had to create some tools to ease my work, and thus I hacked up TBoard-Painter (a C/G-editor, made to create PETSCII graphics in colour; complete with block copy and the possibility to make up to 8 screens high pictures!), TAccess-Group Editor (An Access-group editor that is meant to replace the editor that comes with C∗Base) and TSeq-Viewer (A Sequential-file viewer).

While working with C∗Base I also found several bugs that I fixed, a few of them quite serious. Two of them serious enough to allow intruders to crash your BBS.

After being in contact with both Gunther Birznieks, who coded the program, and Jerome P. Yoner, who was the one to take over the Copyright from him when Gunther stopped his activities on the 64, I have now reached an agreement which states that I am now the legal owner of C∗Base Systems.

Because of this, all arrangements with the two earlier copyright-holders are now nullified. From now on, the program is free in all aspects; its license is the GNU General Public License. Refer to the chapter "Copyright, Licenses, and Trademarks" for more information.

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3 Notations Used in this Manual

When showing the format of a file, text is set in fixed size. Anything inside curly braces "{" and "}" is meant to be replaced by what the text inside the braces stipulate.

Notation:	Meaning:
`[RETURN]`	Key-press; Bold, Fixed size typeface
`<-`	Used in place of the Left Arrow in PETSCII; Bold Fixed size typeface
`^`	Used in place of the Up Arrow in PETSCII; Bold Fixed size typeface
`C=`	Used in place of the Commodore key; Bold, Fixed size typeface
"C/APP_MOD"	Filename; Bold Uppercase, spaces replaced with _, filename surrounded by " "
xxx	Should be replaced with another value; explanation follows in description; the value should have the same nr of digits/letters as the nr of x's. Several different letters (xyz) denotes that the values means different things; Lowercase Italics
`a`	Floating Point Variable; Fixed size typeface
`a%`	Integer Variable; Fixed size typeface
`a$`	String; Fixed size typeface
`a()`	Floating Point Array; Fixed size typeface
`a%()`	Integer Array; Fixed size typeface
`a$()`	String Array; Fixed size typeface
`@:d$:`	Examples on prompts/file-explanations etc.; Fixed size typeface
`\`	Used to indicate that the line continues with the contents of the next line; no spaces or newlines should be inserted

Table 1: Notations used in this document

4 What Is New, What Is Different?

This chapter contains a list of most things that are new, or different from C∗Base v3.2. This change-log is probably incomplete; several years have passed since I begun changing this program.

4.1 Miscellaneous

- All files have been styled up to look better
- The protocols have been given the prefix **"P/"** and the ML-files the prefix **"K/"**
- All **"C/"**, **"K/"** and **"P/"**-files have versions-numbers attached to them, to simplify updates
- There are now 4 different sprite-cursors to choose from, named **"SPRITE_*x*"**, where x is a number between 1 and 4
- The format for the **"STATS"**-file has been changed
- More files now have **"/A"**-counterparts
- The **"CONFIGURE"**-file has been cleaned up

4.2 "C/APP_MOD"

- The application-file has been made a lot shorter (a lot of unnecessary code has been removed)
- If you choose to have "Separate ASCII-menus", the file **"APP/A"** will be loaded instead of **"APP"** if an ASCII user applies for an account
- Support for more Modem-speeds has been added
- The prompts in the file **"TEXT"** which only were used in **"C/APP_MOD"** has been incorporated in the code instead, to free memory

4.3 "C/BBS"

- Fixed a corner-case in the Global Search routine which sometimes caused a search to fail
- The Network-support has been removed[2]
- The Libraries have been removed
- The Prime-Time system has been removed
- The support for UD-titlescreens has been removed
- The support for modular U/D's, Remote-Area, Subs and Terminal has been removed
- The support for Modules has been removed
- The Fastloader-support has been removed
- The Call-back validation support has been removed
- Carrier-Drop Checking and One Post/Call Checking has been added as options
- A bug which could overwrite the ML-files if no modem was present has been fixed
- The Multi-Colour BBS-feature has been removed, at least temporarily (The ML-code that supports it is still left in the text-parser, though)
- The Main-menu now uses Quick-Keys (One keypress for each option, and no need to press **[RETURN]**)
- A Toplist-viewer has been added
- Some of the commands have been moved from the Main-menu or the Mail-menu to a special User-Parameter menu
- **<** can now be used to go to the previous Sub
- **+** and **−** can now be used to navigate in both the U/D's and the Subs
- It is now possible to move directly from the Subs to the U/D's by writing ˆ or **ud** and to move directly from the U/D's to the Subs by writing ˆ or **sb**

[2] If I get my hands on the sources for the networking modules, it'll go back in

- A severe bug, which could corrupt the Protocols when sending a mail, has been fixed
- Support for the SuperCPU has been added
- Support for Auto-Posting Uploads has been added
- There is now support for Auto-Logoff when Up- or Downloads have been completed
- A Chat-request now offers the user to leave feedback if the Sysop is out
- Chat-request is now available from the Subs and U/D-area too
- **`h`** can no longer be used to get help-texts in the main-menu; use **`?`** or **`[RETURN]`** instead
- Some small colour-bugs has been fixed
- The text "-" has been replaced with "Nothing" as description if the user does not supply any information
- An option to view the directory in the U/D-area with estimated Download-time instead of Upload-date has been added; toggle with **=**
- All files that are new to the user are now marked with a "√"-sign
- The Join/Unjoin Sub feature has been removed
- Pressing **`[RETURN]`** at Wait-screen will now take you to remote-mode instead of log you onto the BBS
- The "Show Disk-Status" option can now be toggled from the Wait-screen
- The BBS now performs Garbage-collection every time it returns to the Wait-screen
- Support for customised, two lines high, delimiter-lines has been added
- Some of the initialisation has been moved from BASIC-code to Assembly Language to make start up quicker
- The Macros have been renamed to Oneliners (as this is what they really are) and as a consequence, the files **"MACROS"** and **"MLOG"** have been renamed to, **"ONELINERS"** and **"OLOG"**
- The "Insert System-disk" request has now been removed

- All menus are now affected by the “Separate ASCII-screens”-option
- An option has been added to turn all logging off, for people with EXTREME problems with disk-space. It is NOT recommended to use this feature, as you lose the opportunity of backtracking errors
- Support for Military (24-Hour) time format has been added
- A bug, which could cause the BBS to hang if no modem was connected, was fixed
- A lot of cruft was removed from the code
- Options to check for users that drop-carrier or does not post has been added
- The phone-number check has been made optional

4.4 “C/BOOT”

- The file-loader has been fixed to report errors when loading, and will not continue loading the next file before the one before is loaded in due order without bugs
- The time-calculation bug has been fixed and the routine been heavily optimised
- Support for entering time in Military (24-Hour) Format has been added for us Europeans who cannot understand what’s so funny about the 12 Hour AM/PM time-format
- **“C/BOOT”** now gathers all data about the version-numbers for the different System-files and writes them to the file **“VDATA”**, to simplify updates and bug tracking. Two lists are created; one for the Boot-disk and one for the System-disk. If those two are the same, the same files will be listed twice.[3] This list is updated each time you reboot your BBS, regardless of if you have made any upgrades or not, to make sure no files are missed out. This file can also be useful to locate missing, old or misplaced files
- The files **“ASCII_TAB”** and **“P/PUNTER”** are no longer loaded on boot-up, thus you need not have these files on your Boot-disk
- Before loading the main-BBS, the Boot-file now asks you to insert your System-disk
- The Access-Group editor and the Prompt editor has both been removed — they were just a waste of space, as they were both totally worthless
- Changing of configuration-options is now done from **“C/CONFIGURE”** instead

[3] This is completely harmless, if somewhat annoying.

4.5 “C/CONFIGURE”

- The code that configures the system has been split off from **“C/BOOT”**, into this program
- Support for the new features that C∗Base v3.3 introduces has been added
- Support for the features that C∗Base v3.3 no longer supports has been removed
- Some unnecessary code has been removed
- The number of variable open-screens has been limited to 8 instead of 9, to simplify the transition to an ML-routine
- Logging can now be turned off completely (only recommended for Sysops with VERY limited disk-space)
- If you lose your **“CONFIGURE”**-file, this program can now create a new one for you

4.6 “C/SYS_SETUP”

Note: This file used to be known as **“C/SYS_CREATE”**, but as this file is used to change settings as well, I decided a name-change was in order.

- Converters for old format v3.x **“USERLOG”** and **“STATS”**-files has been added
- Support for the new features that C∗Base v3.3 introduces has been added
- Support for the features that C∗Base v3.3 no longer supports has been removed
- Some unnecessary code has been removed
- The manoeuvring in the menus has been simplified

4.7 “C/TOPLISTER”

- A completely new Toplister-engine to C∗Base
- The BBS puts the modem on hook while updating the Toplister
- Support for SuperCPU and 2MHz mode when called automatically
- VERY fast sorting (Even though it is only a modified O(n^2)-routine)
- Support for approximately 600 users[4]

[4] If this is not enough for you, I *promise* to write a special routine to fix that

4.8 ML-files

- The Dongle-protection has now been removed from the code
- All the ML-files have been resourced into Assembler and rewritten HEAVILY to gain maximum speed
- The MCI Header-command has been modified and enhanced with 2 new commands which modify the looks of the header-lines
- The MCI-parser has been made much faster; commands often used has been given higher priority; amongst them the "@"-commands were given top priority
- The ANSI-routines have been made faster and improved a bit
- The bug in the Message-Maker when undeleting, which caused one char from the old text to remain, has now been fixed
- The Message-Maker has been made faster
- The bug that caused the "Press Space" prompt to bug out when you paused the scrolling, has now been fixed
- A bug that could occur occasionally when chatting, which disallowed some callers from using the **[DELETE]**-key, has now been fixed
- The search-routine has been made much faster
- The **.9**-thing has been removed from the Message Maker
- The problem with unallowed chars in **č** MCI-commands has been fixed
- Several important memory-addresses have been moved to the Zero-Page to speed up the BBS
- The File-copy/Delete Post routine has been massively boosted
- The Directory routine has been made a little faster
- The Prompt lookup routine has been made much faster
- The Memory-copy routine has been made much faster
- The interpreter for BASIC-extensions has been made a little faster
- The jump-tables have been restructured

- The NMI timing-tables has been moved from **“ML_2.O”** to **“ML_0.O”**
- A bug which could cause disappearing colours when parsing to ANSI was fixed

4.9 Protocols

- All the protocols have been resourced into Assembler and rewritten to shorten them
- The X-Modem1K protocol has been bug-fixed
- All the protocols have been rewritten to communicate with the main-program via an interface page rather than via hard poking directly into the protocols
- All protocols are now called through a jump-table in the beginning of the protocol rather than with jumps into the main-code
- A few small fixes were made to the Punter protocol

5 How Do I Install C∗Base v3.3?

If you're already running a C∗Base BBS and want to export your files to C∗Base v3.3, refer to the chapter "Transition From Other C∗Base-versions". If not, this should be the chapter to read. And this chapter can be useful anyway, even if you've had a BBS for quite a while. If you intend to run the BBS from a couple of single-sided double-density drives (664 blocks available), read the paragraph "Small Systems" carefully. All sysops should also read the chapter "Hardware" for considerations about supported hardware and hints about configuring the system correctly.

5.1 Backup!

The very first thing you should do is to backup the disk with the program and put away the original-disk(s) in some safe place.

5.2 Partitioning

Create the partitions you need for the BBS, if you have a HD or something else that can be partitioned. This should be done with the tools that comes with your HD/REU/FD or whatever you intend to use for storage. You'll probably notice that my examples use a HD as a starting point. Therefore, all partition-sizes are freely dimensioned.

A good idea is to have:

- One main partition for the BBS-files (2000-3000 blks)
- One partition for Mail, U/D and Sub-files (4000-6000 blks, depending on number of subs and U/D-directories you plan to have)
- One partition for each U/D-directory (This is not necessary, but makes things a LOT easier) and at least 5–6 partitions in spare, for future expansion. Dimension the partitions according to what the directories are meant for. "Notes/Tools" might not need as big a partition as "Old-Games" or "Old-Demos"
- One backup directory where you store old versions of the Prompt-file, Configuration-file, **"STATS"**-file etc. when you make changes (1000-1500 blks, at most, as you should not keep too many different versions of your System-files; that could get you into trouble finding out what version is the one most up to date)

5.3 Copying Files

Copy all the files listed below to the directory you intend to be the main directory for the BBS. This directory should be 2000-3000 blks big. Most of the files have version-numbers after the names; I've excluded them, for sake of clarity.

If you want to have separate ASCII-menus, you also have to have separate versions of all the files marked with an "A" in the chapter "What Are the Files For".

5.3.1 Executables

Note that executable does not mean that all of these files are meant for running; they are not — **"C/APP_MOD"** and **"C/TOPLISTER"** both need to be loaded from **"C/BBS"**, and **"C/BBS"** itself cannot start without help from **"C/BOOT"**.

"AUTOSTART"[5]
"D9060_BOOT"[6] **"C/APP_MOD"**
"C/BBS"
"C/BOOT"
"C/CONFIGURE"
"C/SYS_SETUP"
"C/TOPLISTER"

5.3.2 ML-files

"K/ML_0.O"
"K/ML_1.O"
"K/ML_2.O"
"K/ML_3.O"
"K/NMI.ML"[7]
"P/PUNTER"
"P/X-MODEM"
"P/X-MODEM1K"
"K/SWIFT.D*x*"[8]

[5] Only if you have a XETEC LT. hard-disk
[6] Only if you have a D9060 hard-disk
[7] Refer to the chapter "What Are the Files For" to find out which one to use
[8] Only if you have a Swiftlink or a Turbo232. Refer to the chapter "What Are the Files For" to find out which one to use

5.3.3 Configuration-files and Data

“ANSI_TAB”
“ASCII_TAB”
“CONFIGURE”
“SPRITE_1”
“SPRITE_2”
“SPRITE_3”
“SPRITE_4”
“TEXT”

5.3.4 Graphics

“APP”
“BBS-LIST”
“CDROP”
“COMPLETE”
“DLINE”
“LCALL.S”
“LCALL.U”
“LOGON”
“MENU”
“MTERM”
“NOPOST”
“PRESSDEL”
“RANKCHOICES”
“SUBOP”
“SUBS”
“SYSOP”
“TOP10”
“TOPLIST”
“UDOP”
“UL/DL”
“USER”
“USEREDIT”
“WAIT”

5.3.5 Useful Tools to Have in the Directory

TBoard-Painter v1.1pro[9]
TSeq-Viewer v1.2[10]
TAGE v1.1[11]
CBase Modder/FLT[12]
Copy-All[13]

[9] Or newer
[10] Or newer
[11] Or newer
[12] My modified version is named "Promptteditor_1.1" for sake of clarity, as its only purpose is to edit the prompt-file
[13] A freeware file-copier that can copy REL-files as well. Good to use for taking backups of your BBS

5.4 Creating Needed Files and Editing Existing Files

Quite a lot of the files are probably such that you want them with some personal touch, and some wary from system to system. Other files must be created completely by yourself; for instance, it is quite impossible for me to foresee what hardware different users will run on, thus I cannot make an **"I"**-file that suits everyone. For explanations on how the files should look/what they should contain, have a look in the chapter "What Are All the Files For".

5.4.1 Files to Create on Your Own

"END"[14]
"I"
"OPEN"[15]

5.4.2 Files You Need to Modify

"APP"

5.4.3 Files You Might Want to Style Up

"CDROP"
"COMPLETE"
"DLINE"
"LOGON"
"NOPOST"
"PRESSDEL"
"RANKCHOICES"
"TEXT"[16]
"TOP10"
"TOPLIST"

[14] You can have more than one of these; if you do, name them **"END_1"**, **"END_2"** etc.
[15] You can have more than one of these; if you do, name them **"OPEN_1"**, **"END_2"** etc.
[16] This is the text-prompt file; it needs to be edited with a Prompt-editor

5.5 Small Systems

Some of you might not have a 2 GB hard-disk, a Ram-Link, a SuperCPU and an FD-2000 to run the system on, but rather 3 1541's and a 1581. Fear thee not, for things are not hopeless. It's even possible, however very annoying, to run your BBS with only one drive.[17]

5.5.1 A Minimalist Boot-disk

The first step you should take, is to create a Boot-disk.a This disk is not be necessary to use while running the BBS, only to boot it. The drive would probably be the same as you use for the System-disk, though.

"CONFIGURE"
"C/BOOT"
"K/ML_0.O"
"K/ML_1.O"
"K/ML_2.O"
"K/ML_3.O"
"K/NMI.ML"[18]
"K/SWIFT.D*x*"[19]
"SPRITE_1"
"SPRITE_2"
"SPRITE_3"
"SPRITE_4"
"TEXT"

[17] *Definitely not recommended!*

[18] Refer to the chapter "What Are the Files For" to find out which one to use

[19] Only if you have a Swiftlink or a Turbo232. Refer to the chapter "What Are the Files For" to find out which one to use

5.5.2 A Minimalist System-disk

The next thing to do is to create your System-disk, which will be what should be on logical drive 0. Do not forget the **"/A"**-files if you use separate ASCII-screens (but on a limited space system, this is not recommended).

"ASCII_TAB"
"ANSI_TAB"
"APP"
"BBS-LIST"[20]
"CDROP"[21]
"C/APP_MOD"
"C/BBS"
"C/TOPLISTER"[22]
"DLINE"
"LCALL.S"
"LCALL.U"
"LOGON"
"MENU"
"MTERM"
"NOPOST"[23]
"ONELINERS"[24]
"SUBOP"
"SUBS"
"SYSOP"
"STATS"
"UDOP"[25]
"UL/DL"[26]
"USER"
"USEREDIT"
"WAIT"

[20] If you deny every user-group access to the BBS-list, you do not need this file
[21] If you do not activate "Carrier-Drop Checking", you do not need this file
[22] If you disable U/D-areas, you do not need this file
[23] If you do not activate "Check for No Posting", you do not need this file
[24] If you do not activate "Oneliners", you do not need this file
[25] If you disable U/D-areas, you do not need this file
[26] If you disable U/D-areas, you do not need this file

5.5.3 The Rest of the Minimalist System

In addition to the above, you also need a drive for the SUBS, one for MAIL and one or more for the U/D-areas. You do not need to create any files or copy anything to the disks used for these areas, you only need to use a properly formatted disk. The needed files will be created by the program automatically. If you do not have enough drives to give each of the sections a drive of their own, it is recommended that you combine MAIL and SUBS on the same drive, and/or configure a system without any U/D-area.

One other thing that is important to remember is that you should empty the **"OLOG"** VERY often, or even better, deactivate the Oneliners completely (you will gain both in disk-space and system-speed).

The **"CAT"**-file and the **"CALLERS"**-log file should also be emptied often. Furthermore, you should keep the **"NAMELOG"** up to date. If you're *really* short of space, you can disable the use of a **"CALLERS"**-log file.

Depending on how you configure the "U/D-protocols" drive-number setting, store these files on the selected drive.

"P/PUNTER"
"P/X-MODEM"
"P/X-MODEM1K"

5.6 Transition from Other C∗Base-versions

Ok, so you are a sysop that has already created a massive, groovy BBS with some other version of C∗Base. Now, you've decided to try out this one. Here are some guide-lines on how to do things.

5.6.1 The System-files

As for **"CONFIGURE"**, you should be able to export it right off into C∗Base v3.3 and then edit it in the usual manner, to change the things that differs between the earlier versions and this one. If you are transitioning from a modified version of C∗Base that does not have the same format, you will have to use the **"CONFIGURE"**-file supplied with C∗Base v3.3.

"STATS" can be converted to the v3.3 format using **"C/SYS_SETUP"**. Here you can convert both C∗Base v2.0-files and old C∗Base v3.x files to the new v3.3 format.

If you have a **"STATS"**-file that is not compatible with either of those formats, please refer to the chapter "What Is the Format of the **"STATS"**-file". The paragraph "The Old **"STATS"**-file and How To Convert It?" should shed some light on the matter.

To find out what prompts needs to be redesigned, refer to the chapter "The Prompts — Explanations". When transitioning from prior versions of C∗Base v3.x, or modifications of it, most prompts should be possible to reuse. As for those who transition from C∗Base v2.0, prompts is a completely new concept, and thus you need to make new ones. As a starting point, use the ones provided with the system.

Most of the graphics should be possible to re-use, and in the cases where this is impossible, feel free to make use of the included example-files to get an idea of how to do them.

Rename the file **"MLOG"** to **"OLOG"** and the file **"MACROS"** to **"ONELINERS"**.

Copy the files **“LCALL.U”** and **“LCALL.S”** to the System-directory, and edit them to correspond with your old **“LCALL”**-file (If you bother; you could just copy them and ignore the editing; they are emptied anyway). Then remove the old **“LCALL”** file from your System-directory.

To convert your **“USERLOG”**-file from C∗Base v2.x or older versions of C∗Base v3.x, use the “Convert Userlog”-option available in **“C/SYS_SETUP”**.

6 Setup and Configuration

This chapter is meant to give you a reasonable chance to understand how to set up a system properly. In the appendix you can find easy to use charts where you can fill in a copy of every single configuration and setup, to have as a backup. Or even better, to have as a sketch BEFORE you begin with the installation. If you have access to a photo-copier, it might be a wise idea to take several copies of these charts, to avoid spoiling your originals.

6.1 Logical Units

The first thing you should do is to to fill out the Logical Drive chart on page 151. There you write down all information about what device/drive the files should be on, and, if you use partitions or sub-directories, what DOS-init command to have. If you do not need any such init-command, `i:` is a good replacement. This command simply initialises the drive, that is, re-reads the directory information and BAM-information; a simple, fast and good security-measure.

6.2 System Setup

Now it is time to run **"C/SYS_SETUP"**. This file will create your **"USERLOG"**-file and your **"STATS"**-file, and will let you setup a lot of important things.

The first questions you will be asked when you start this program are the following:

```
SYSTEM DEVICE#    :
SYSTEM DRIVE#     :
SYSTEM DOS-COMMAND:
```

Enter the device-number, drive-number and DOS init-command for the unit where you want (**"STATS"**) to be stored.

When you have specified the device information, you will be presented to a menu with the following options.[27]

```
 [1] Create System
 [2] C*Base v3.3 STATS-edit
 [3] Format a disk for New System
 [4] Convert C*Base v2.x Userlog
 [5] Convert C*Base v2.x Sub-packets
 [6] Convert C*Base v2.x STATS-file
 [7] Convert Old C*Base v3.x Userlog
 [8] Convert Old C*Base v3.x STATS-file
 [9] Expand Userlog Max Nr of Users
[10] Configure System
[11] Create New Configuration file
[12] Exit Setup
```

The first thing to do if you intend to create a new system (those who are transitioning from older versions should not have any trouble finding out what to do), is to fill out the Stats Dimensioning chart on page 152, and then select "Create System", and press **[RETURN]**.

[27] "Old C∗Base v3.x" refers to C∗Base v3.2 and prior.

6.3 Miscellaneous Setup, Part I

The first question you will be asked is "Sysop Name", where you enter the name that the sysop will have. It does not have to be styled in the same way as your Alias for user #1 (the sysop-account). These are the graphics that will be used in prompts that contain the variable `vi$`.

The next question is current date. Simply enter the date in the format MM/DD/YY.[28]

The next area is the drive configuration. Here you enter the device/drive/DOS-command information for the Subs and the U/D-directory files (use the information you filled out in the Logical Drives-chart).

[28] Yes, I know this is a silly date-format; YYYY-MM-DD would be saner, but this is just the way it is. I will not bother doing any fixes, unless there turns out to be major "Y2K" bugs involved.

6.4 Sub-boards

Now it is time to create the Subs. The first question is how many messages you want per packet. A higher number means less files to clutter your system and less space-waste, but also means longer time when scanning the packets. 5 posts/packet is a reasonable size when running the Subs from a disk-drive; 10-20 can be used when you run the Subs from a hard-disk.

After this, you are asked how many subs you want. Note that this is not the Maximum # of Subs, only the # of subs you want to create right away. A good idea is to choose `1` and create the Subs later instead when you have finished the setup, the configuration and created a reasonable Access-Group system. The separate "STATS-edit" menu is much smoother to work with.

The chart on page 153 can be useful when you create the Subs. The Groups (Read and Write) columns are for filling in what Access-Groups should have read- and write-access to the different subs. In the System Setup-editor, you just toggle the read/write access on and off by pressing space on a list. It is a good idea is to list every group separated by "`/`", "`:`", "`;`", or similar in the chart. "# of Posts" is how many posts this sub can take before beginning to delete old posts. This number must evenly factor into [number of posts per packet] - 1, so if you use 5 posts/packet, you can choose 9, 14, 19 etc. here.

After you have filled out the information for a sub, the program will ask you who is going to Sub-op this sub. The best thing to do is to choose `0` here. If you want someone else to Sub-op a particular sub, make him co-sysop instead.

A good idea is to use Sub #1 as the public sub, where everyone (except for group #0 and #1) should have read and write access. This Sub is usually the where people write shit-talk and so on.[29]

[29] Most callers are so lazy that they do not bother to read beyond the first sub. Sigh!

6.5 U/D-areas

Now the time has come to configure your upload/download areas. First, you will be asked how many U/D-areas you want. Again, this is not the Max # of U/D-areas, only the # of U/D's you want to create at this point. If you do not want any U/D-areas, choose 0 and skip to the next section. As with the Subs, I recommend that you only create one and add the rest later when you have finished setting up your access-group file etc. This is because the separate "STATS-edit" menu is much easier to work with.

The next question is what sub you want uploads auto-posted into. This should be the Sub that is used for posting such uploads etc. If you have not created such a Sub yet, do not be alarmed — just write `1`, and change this number later when you have created the corresponding Sub.

Now, you will be asked for name of the U/D-area, followed by device#, drive# and DOS-init command (remember the "Logical Drive-chart" Well, the information you wrote down there for each U/D-area is what you should input here!)

Use the U/D-area chart on 154 to help creating your U/D-areas. U/D name should describe what the U/D-area is meant for, Groups (Upload) is what groups have upload-access, Groups (Download) is the same but for downloading, and Groups (Unlimited) is what groups have access to unlimited downloads.

After filling out this information for an U/D-area, you will be asked who will be the U/D-op for that area. A safe bet is to always choose `0` here. If you want someone else to be able to maintain file-areas, simply make them co-sysops.

6.6 Miscellaneous Setup, Part II

Now, you will be confronted with a tricky question: maximum # of users. If you choose a small number, you might run out of user-space, but if you choose a too large number, the system will waste space for nothing. However, there is a rescue — you can expand your **"USERLOG"** later on, if you realise that it's becoming too small. A value between 50-150 is normal, depending on your storage-space. If you're starting to have 50 users or more, you should not run the BBS from a normal double-density, single sided 5.25" disk-drive, because of the big space needed for the Userlog.

The final question will be what the maximum # of Mail-files on the system should be. This setting controls how many different users can have mail sent to them at the same time. Unless you have severe disk-space problems, you should have this set quite high. Most of the time you will not have problems with a high number of Mail-files though, as nearly all users erase their mail directly after reading and answering it.

As soon as you've filled all these answers out, the **"STATS"**-file will be created and saved.

6.7 The Sysop-Account

Now you will be asked to input the information that will be created for account #1 on the system; the Sysop account. The questions are the ones below (the same as those that will be asked any other user applying for an account on the system, but without any additional questions you might have added).

```
Alias           :
Location        :
Phone #         :
Password        :
Real Name       :
Birth Date      :
Computer Type   :
```

The system will then create the Userlog. When this is finished, there will be a text saying: "Your system has now been created".

6.8 Setting Up Access-Groups

When you have finished the system-setup, quit **"C/SYS_SETUP"** and load the included program called **"TAGE"** (TAccess Group Editor), and choose **c** as in "Create new access-group file". Then press **e**. You will now enter the Access-Group editor. From here you can create and edit all access-groups values. Refer to the chapter "Access and Security-Levels" for help on how to setup this file, and what the different settings mean. The editor is quite self-explanatory. You can press **[CTRL + Z]** to undo any changes made (but not after you have changed to another group; the undo-function only works on a one group basis).

6.9 Creating the Rest of Your Subs and U/D-areas

When you have finished the editing the access-groups, save the file you just created file by pressing **s**, then exit the program.

Now, you are ready to create the rest of the Subs and U/D-areas. Load **"C/SYS_SETUP"** once again and enter the "C∗Base v3.3 STATS-edit"-menu. When you are finished, you are ready for the major configuration, so exit this program.

6.10 Configuring Your System

Load up **"C/CONFIGURE"**, then have a good look at the Configuration charts on pages 155, and respectively 156, and, after good consideration, fill them out.

If you have these chart in handy filled out and ready when you do the actual configuration, you should not have any problems at all setting every thing up correct. If the questions about modems trouble you, wait until you are faced with the "Modem-setup"-screen; the descriptions there are a little bit better than the brief text in the chart.

6.10.1 Modem Setup

As for time to pick up phone, a value between 1-4 is good for most users. If you have a phone# identifier that registers the number of the incoming call, you might need to have a higher value. If you're having trouble, experiment.

The option to put the modem on hook during local mode is a safe bet; you should

always do so, or else your users might believe the BBS is down.

If you intend to setup the BBS via an Internet-gateway, select either `No Modem/NULL Modem` or `SwiftLink NULL Modem`, depending on how you are connecting your NULL-modem.

6.10.2 Miscellaneous Config-options, Part I

The LT Kernal Device is the Device# where a XETEC Hard Disk is connected. If you do not have a XETEC Hard Disk, do not bother changing this value.

You should always save the callers log and feedback to disk. The options for printing the log may be useful, but only sometimes; refer to the "Hardware"-chapter for more info. The option to turn off logging completely is only for users with VERY limited disk-space.

You should always choose to save the sysop's acts to the callers log. When you make mistakes, this might help you to realise what went wrong...

The "Validate disk on logoff" option is usually only needed if you're using a C= 1581 as System-drive.

The "Allow bulletins to Abort"-option decides whether a user should be able to abort the showing of bulletin messages or not.

# of Open- and End-screens should be a value between 1-8[30]; refer to the chapters "What Are All the Files For".

6.10.3 Sprite-Cursor

Well, the choice of what sprite-cursor to use is completely up to you.

[30] Yes, I know you could use 9 screens in older versions of C∗Base, but as I considered recoding the random-routine in Machine-Code, it is far easier to have 2^3 combinations than $2^3 + 1$.

6.10.4 Dimensioning

A very important part of the configurations is dimensioning space for various things. Here you decide how many Subs, U/D-areas, Application Questions and Oneliners you CAN have at a maximum. The more you dimension, the less memory free, and the slower the BBS. If you dimension too little memory (for instance 5 subs and you have 7), you will get a a system-crash instead (or, if you're lucky, just an error-message!) *You must dimension at least as much memory as you use!*

Easiest of all to dimension is probably the Oneliners. 20-40 is enough. I had far more than that in the beginning, but that's a good way to scare people away from posting new oneliners, and is bad to your system performance. Less is More![31]

# of application questions is a bit trickier, but remember that you should not dimension too few. The number you give here will be halved; if you enter 30, you dimension room for 15 questions and 15 answers (thus, an odd answer here is *never* sane)... Somewhere around 20 is probably a sane choice (10 questions, 10 answers).

# of U/D-areas can wary quite heavily from system to system, depending on storage space. 30 is a maximum, however. Remember that you can always reconfigure this later if you find that you chose too small a number.

# of Subs is also similar to the U/D-areas. Usually, a board does not have more than 15 Subs, but you can have up to 30 if you feel like it.

Just remember: the more you dimension, the less memory left. The less memory you have left, the slower your BBS becomes!

[31] According to the author of `less`, `less` is the opposite of `more`, but I think we can ignore that for now...

6.10.5 Miscellaneous Config-options, Part II

Now, you continue with some more questions, of mixed character.

"Phone# completion" asks the user to fill out the missing digits in his number after entering the password[32]. This is usually meaningless, and therefore many Sysops choose not to use this feature. If you do not use it, you can empty the prompt with the graphics for it as well (prompt #37). While the program works fine even if the graphics remain, you get more free memory for other prompts if you empty the graphics.

"Check for posting each call" and "Check for Carrier dropping" are features meant to help the Sysop make the users behave properly. An unwritten law on every BBS is that you always post once every call, and that you never drop the Carrier without logging out properly. With these features on, you can "punish" the users that misbehaves by showing a nasty picture or text to them whenever these things happen. The files **"CDROP"** and **"NOPOST"** are meant for this. Read more about it in the chapter "What Are All the Files For". Note, that the "Post every call" is overridden by the setting "Bypass Post-check" in the Access-Group settings. So if the user's main-group is a group that overrides post-checking, no reminder will be shown on the next call.

24 hour format is the most logical way to display time. This is for people who just do not understand the weirdities called A.M. and P.M.; with all due respect to those who use that time-format. If you choose not to use 24 hour format, suit yourself. You will still be able to enter the time on boot-up in either format; this option only affects the way time is shown to the users online.

# of posts before U/D access regulates how many posts you want the user to make each call before he can access the U/D-area. This is overridden by the setting "Bypass Post-check".

[32]The feature is intended as an extra security-measure, but since it's easy to obtain a person's phone#, this is nothing but false security…

“One mail-file per user” is a very important setting. It controls if the BBS should create a new file for every mail a person receives, or just append them to the already existing mail-file. The normal setting is to have only one mail-file per user. The drawback is that it can get slow to scroll the mail when you have more than 20 mail waiting for you, but that almost never occurs.

The threshold-level for the toplister regulates how many uploads, downloads, and/or posts are needed before a user is included in the ranking.

“Use separate ASCII-screens” controls whether ASCII-users should see other menus than PETSCII-users or not. This might be a good idea if you have colourful menus with text that might not be readable to callers with terminal-programs that do not support PETSCII-graphics.

6.10.6 Disk settings

Here are some more settings involving files and disks.

The first involves whether or not you want the BBS to display the disk-status after every performed disk-command. This is quite handy, as you will be able to find out if there are missing files, etc. The disk-status is only shown on the BBS-side; it is not sent to the caller. This option is possible to toggle from the BBS wait-screen (but doing so does not change the default value used on boot).

Device#, drive# and DOS-init command for System-drive is simply where you want to store the most important files on the BBS: the System-files. This would probably be where you earlier placed the **"USERLOG"**-file and the **"STATS"**-file when creating the system.

Device# for applications and main-board should be the same as the System-disk.

Device# for protocol-files can be wherever you find place for them. On most systems, it would be the on the System-drive, though.

Logical Unit for U/D dir-files is for those who do not want to store the dir-files in one of the U/D-areas.[33] The default is `0:`, which is the System-drive.

6.10.7 Colour-setup

These settings has little meaning in C∗Base v3.3; in C∗Base v3.2 and earlier, the Multi-colour BBS option referred to whether you wanted it to cycle the three different main-colours (which you could access when editing the prompts using **`[F1]`**, **`[F3]`** and **`[F5]`**). I have not removed the possibility of using these colours from the MCI-parser. However, the colour-cycling engine is removed from the BASIC-code. It might reappear in a somewhat better shape in an upcoming version. The only important setting here is probably the Cursor-colour.

[33] This is the case for people that intend to run their system on an ICT Harddisk. Refer to the "Hardware" chapter for more information.

6.11 Congratulations

You are now finished with all setup-work for your BBS. If you have created the needed graphics, then your system is ready to go! Save the configuration-file, exit the configuration-program, and boot the system (see next chapter if you do not know how to do this).

7 Booting the BBS

To boot C∗Base, do the following:

1. Insert the Boot-disk
2. Load **"C/BOOT"** and run it
3. When the "Time Setup" prompt appears, enter the time "HH:MM *xx*" where *xx* is either "PM", "AM", or "MT". If you enter time in 12 hour format, add "AM" or "PM", if you enter it in 24 hour format, enter "MT" (Military Time).
4. The program now asks you to insert the System-disk. Do so (if your BOOT-disk is the same as your System-disk, just press **[RETURN]** here).
5. Answer the questions that appear.
6. Wait for **"C/BBS"** to load.

8 Access and Security-Levels

This chapter will try to explain how you should configure your access-group file **"AG"**, for efficiency and security. It will also discuss other security related issues, such as the `rm%` remote-access byte, and explain how you get the most out of the `s2` secondary userlevel byte.

In C∗Base there are 15 Access-groups available (0-14). 2 of them have a predefined use. These are #0 and #1.

#0 is used for those who apply for a user; this is a dummy access-group that the system only uses to make sure no-one sneaks past its safety-guards. There should not be any access-rights granted to this group whatsoever.

#1 is the access that a user who just finished his application gets. On most systems, this group just has access to Feedback (a must!) and the BBS-list. Apart from this, the user can only log off and return later to check if you have given him any access yet, or not. This user-group also has a menu-file of their own; "NEW". Here you should include the commands available to a newcomer (listed in the explanation of the file).

A good idea is to use Group #14 as the Sysop-group. No-one else should be a member of that group.

The rest of the groups are free for you to play around with.

The Access-Group chart on page 157 will probably come in handy when you set up your access-groups. Explanations follow on the next page.

8.1 Explanations of the Access-Group Settings

For all limits apply, that 0 represents unlimited. In v1.2 of **"TAGE"**, this is written out in clear, to avoid confusion.

"Mail-access" decides whether you should be allowed to enter the mail-menu, view the userlist and send mail to people. Regardless of this setting, you will always be able to answer to a letter sent to you.

"Sub-board access" regulates whether you should have access to the Subs or not.

"Read Callers log" is something that only Sysops and Co-sysops should have access to, as each move every user takes on the BBS will be logged in this file.

The "BBS-list" contains phone-numbers to other BBS's. Probably you would want most callers to be able to access it.

"Back to Back Calls" specifies whether the user should be allowed to call again before anyone else has called inbetween. This option is usually only necessary for very busy systems.

The 300/1200/2400+ bps U/D options define whether members of the group should have be allowed to do up- or downloads at a specified baudrate. 2400+ represents all speeds from 2400 and upward.

"OMNI-message write" is simply whether the user should have access to the "Advert-Writer" — a sort of bulletin that everyone can read, and people with OMNI-access can write.

"MCI-command usage" regulates whether the user should be able to use the **"č"**-MCI commands. The access to **"@"**-commands is regulated by the `rm%`-value.

"Bypass post-check" decides whether members of this group should be able to override the "# of Posts before U/D's" and "Check for Post every call"-options.

"Max calls/day" decides how many calls a user can make each day.

AM (00:00 - 11:59) time limit and PM (12:00 - 23:59) time limit is just what it sounds like — how long a user can be logged on during that time of day. The limit is in minutes $*$ 10, so if you set the limit to 7, the user would be able to be logged on for 70 minutes.

Finally, "U/D block ratio" decides how many blocks the user can download for each uploaded block.

8.2 Secondary Accesslevel

If you find this chapter complicated, return to it later when you've had your BBS running for a while. You do not *need* to make use of this, unless you want many different group-combinations. However, the concept is very powerful, and it might make your job easier.

Every user (except members of group #0 and group #1) can be a member of several groups at a time. For instance, if you have one group called "Normal User", one called "Elite User", one called "Poets" and one called "Old-timers", a person could have "Normal User" as base-level (security-level `sl`), and then have "Poets" and "Old-timers" as secondary accesslevel. Another user could be member of "Elite User" only, while yet another one could be "Elite User" and be a member of "Old-timers".

This is the reason why there's really no need for more than 15 access-groups. The main use for the secondary accesslevel is when you have many subs that only a few people should be able to access, but where several different cases are possible.

The secondary access level is calculated as follows:

Group#	Secondary Access
0	1
1	2
2	4
3	8
4	16
5	32
6	64
7	128
8	256
9	512
10	1024
11	2048
12	4096
13	8192
14	16384

So, if a person should have Group #5 as base-group and be a member of group #7, #8 and #10 as well, you would add $32 + 128 + 256 + 1024 = 1440$. That is, you just add the group-numbers of all the groups the person should be a member of, including the one which functions as the base-group. The base-group is the one that you makes the user a part of through the "security level" (`sl`) setting.

Instead of doing this calculation manually, you can have the system do it for you when you are in remote-mode. Simply press **<-** followed by **[RETURN]**. Then enter the groups you want to add separated by a `;`. Applied on my example, this would be `5;7;8;10`. Then just press **[RETURN]**, and the BBS should give you the answer `1440`.

BE CAREFUL! When you give a user membership in one or more secondary groups, all the rights are added (a logical "or" operation[34]), which allows him to do everything that one or more of the groups are allowed to do. Always remember to include the base-group in the calculation as well!

NOTE: If you forget to include the base-group, or if it differs from the base-group you added into the secondary access, the secondary access-level will be set to the same as the base-group.

This way of combining access-groups is also used to calculate which groups should be able to read a specific bulletin-message. So you better learn how to do this, at least using the **<-** feature in remote.

[34]For programmers of 65xx assembler, this would be `ora` :-)

8.3 Remote Access — The `rm%` byte

The remote-byte controls the access to vital parts of the system, such as the exchange-mode, the remote-mode, the file-system, etc. Only the Sysop and the Co-Sysop(s) should have remote access. Any remote-value other than `0` also gives the right to use `@` MCI-commands.

The `rm%` byte follows the same logic as the secondary access-byte does; the access is bitwise added to gain a value. The value should be calculated by adding the numbers in the following table:

Value	Remote Access
0	No access at all
1	Access to Remote Mode from main-screen (**`r`**) and access to most, but not all, UDOP and SUBOP-commands
2	Access to DOS-commands in Remote Mode and U/D-section
4	Allows formatting the disk! **BEWARE!** Never give this away to anyone!
8	Access to Exchange mode in the U/D-areas
16	Access to System-drives in Exchange-mode, if **`x`** is followed by the logical BBS-drive#
32	Access to viewing passwords when editing a user
64	Reserved
128	Reserved for Network (Indicates a Network User); N/A in C∗Base v3.3

Only the Sysop should have `255` as remote access. Only people in local mode or having a remote access-value of `255` can change the `rm%` byte for other users. And this should be a privilege for the Sysop alone.

Remember, that when you "freeze" a user, you enter a simulated local-mode. Therefore, you can change a frozen user's `rm%` value without having to kick him off the system first.

9 What Are All the Files For?

Here's an account of what the different files are used for. The files are listed in alphabetical order. There are also explanations where the file-format differs from the one in earlier versions of C∗Base, for those who are interested.

The column "Special" should be interpreted as follows:

A This file can have a "twin" named identically apart from the suffix **"/A"**; this file will be shown when using ASCII-mode, if you have chosen to have separate ASCII-menus.

B This file is VERY important to back up!

C These files must be written using **`[C= + W]`** if edited with the TBoard-Painter v1.1, to remove the initial colour-data. Do NOT use TBoard-Painter v1.0 to edit these files, as the colour-filter is a little bit flaky in that one.

M There can be multiple copies of this file; the filename followed by **"_*x*"**, where *x* is a number between 1-8. This depends whether you have selected multiple screens or not in the setup, and how many you chose to have. Do not forget the space before the digit. If you choose not to have multiple screens, do not add **"_*x*"**.

MM This file should be edited with the Message-Maker.

P Protocol file; these files are mutually exclusive, but the BBS keeps track of the files on its own, so you must have all of them in the System-directory. Do not tamper with their names.

R You can delete this file if you for some reason would like to, for instance, if it gets too big. The file will be recreated by the BBS-program.

V The filename is followed by a space and a version-number. These are excluded from this list.

X These files are mutually exclusive; you can NOT have more than one of them installed at the same time. The exclusion follows inside parantheses.

Z This file must be compiled using BLITZ!.

Files with a name beginning with **"C/"** are (sometimes compiled) BASIC (**"C/BBS"**, **"C/TOPLISTER"**, etc), **"P/"** indicates protocols (**"P/PUNTER"**, **"P/X-MODEM1K"**,

etc), and **“K/”** indicates files that are part of the BBS-kernel (**“K/ML_0.O”**, **“K/SWIFT.D*x*”**, etc).

File	Type	Special
"AG"	PRG	B

Contains the access-group data for the 15 different access-groups available on a BBS that runs C∗Base. A user can be a member of several of these groups; the rights are added together. Therefore, not all groups need to contain all rights. Be careful when giving people access to several groups though; think carefully about what kind of status each group gives you. The access-groups are added together, so if one of the groups have access to something, and a user is member of that one, then he will have access to that, regardless of the status of the other group(s) he's a member of. For more information on system-security, refer to the chapter "Access and Security-Levels".

This file should be edited with TAGE v1.0 or newer.

"APP"	SEQ	A, C

This file contains the form loaded when users apply for an account on the BBS. You may add questions of your own, but the seven questions listed below MUST be there, in that very order. Of course, you're free to design them however you want them. Just remember the order. The rest of the information is ONLY stored in the **"CAT"**-file, and nowhere else.

```
{# of Questions}
[Alias       : ]
[Location    : ]
[Phone#      : ]
[Real Name   : ]
[Password    : ]
[Computertype: ]
[Birthday    : ]
{More questions}
```

After this, you can add graphics that will be shown BEFORE these questions appear (these questions are buffered, and are not shown until the graphics are shown).

File	Type	Special
"AUTOPOST"	SEQ	R

This file is automagically created by the BBS when someone wants to use the "Autopost uploads"-feature. It contains the post that should be posted when the upload is complete. You do not need to, and should not, touch this file at all. It is removed after the post is completed, to avoid any misunderstandings.

"AUTOSTART"	PRG	

This file should only be installed if your system is run from a XETEC LT harddisk. If the computer becomes restarted (power-failure or similar) it will recognise this file and run it. This file will then load and run **"C/BOOT"**.

"BBS-LIST"	SEQ	C

This file contains the BBS-list; a list of phone-numbers to other BBS's, that the users may read and add their own favourites to. If you want to edit this file manually, this is its format:

```
{# of lines of questions}
{Line/Question #1}
{...}
```

After this, all following information is data about boards. As this is pure graphics/text that will be sent as is to the screen/modem, you can edit this if anything gets wrong, or if anyone want his entry removed.

File	Type	Special
"BUL_*x*"	SEQ	M, MM

This is a bulletin-message; you can have several of these, just number them from 1-9. **"BUL"** files must always be numbered; i.e. even if you have only one bulletin-file, it should be named **"BUL_1"**. These files are shown on logon, and wary between different access-groups; some may be able to read a certain message, some may not.

Bulletin-messages are written from the remote-menu using `W`*xxxxx*, where *xxxxx* tells what groups that are allowed to read the file. The *xxxxx* uses the secondary access-format, explained in the chapter about access-groups and user-editing.

"CALLERS"	SEQ	R

This file is the log-file, that registers every move the users make on your BBS. You should remember to empty it now and then, or your system-disk will soon fill up. This file is raw PETSCII. It does not need to be edited, but can be shown with any SEQ-file viewer. This file can be a good starting point when you experience trouble with the BBS and suspect disk-errors or intruders.

"CAT"	SEQ	R

In this file, all the entries from users applying for an account will be stored apart, from the Password. If a person fails, every entry will be stored, even if the person fails with his application and tries again later on.

"CDROP"	SEQ

This file is shown to a user if he dropped the carrier during his last call and you have the "Carrier Drop Check"-option activated.

File	Type	Special
"CHAT"	SEQ	

This file is shown when the user requests for a chat, but the sysop is marked as out. The user will be asked to input a subject, and then finally asked if he wants to leave feedback or not (this option is not available in earlier versions of C∗Base).

"CMDCLOCK"	SEQ	C

This file is used when you have a CMD-unit attached to your system that has a built in Real-Time Clock with battery-backup, for instance the CMD-HD, FD-2000 or FD-4000, the Ramlink etc.[35] This file only contains one thing: a whitespace, and then the device# of the CMD-device to read the time from, so it should look something like this:

```
_{Device# for CMD-device}
```

"COMPLETE"	SEQ

This file should contain a logo that says something like "Complete Rankings" or similar; it is shown when you press **c** for complete rankings in the Toplister.

[35] If you have this file in your boot-directory, **"C/BOOT"** will load the BBS directly after reading the time, without asking any questions.

File	Type	Special
"CONFIGURE"	PRG	B

This file tells the BBS how you want it to work; should it use single or multiple open-screens, what kind of modem do you use and what its AT-init string looks like. **Make sure you have a backup of it!**

You should not try to edit this file manually; it could easily get you into trouble. Nevertheless, for people interested, the format of this file is explained below. Notice, that although the rest of the values might vary, they are still not used. This applies for older versions of C∗Base as well. The memory-addresses are given in hexadecimal, with the decimal address inside a pair of parantheses "(" ")".

In the Configure-file, all empty (reserved) positions are filled out with the contents of memory-address `$03E7 (999)`. You should never trust this to remain so, however; only the entry actually marked `$03E7 (999)` is guaranteed to remain as is.

`$0346 (838)` Modem-type used:

1 - Hayes 2400 Baud
2 - 1670 Regular
3 - Avatex Regular
4 - Avatex HC
5 - 1670 v2.0
6 - Hayes 1200 Baud
7 - No Modem/Null-Modem
8 - 9600 Baud/Turbo-Master Acceleration
9 - Swiftlink 2400 Baud
10 - Swiftlink 9600 Baud
11 - Swiftlink 19200 Baud

`$0342 (834)` C∗Base v3.3 Configuration-byte 1[36]; bit-values:

0 - Phone# Completion:
0 - No
1 - Yes
1 - Post Checking:
0 - No
1 - Yes

[36] N/A in C∗Base v3.2 and earlier

2 - Carrier-Drop Checking:
0 - No
1 - Yes
3 - Use Military (24 Hour) Time Format:
0 - No
1 - Yes

– (xxx) Reserved

– (xxx) Reserved

$033D (829) Sysop Presence:
0 - Out
1 - In

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

– (xxx) Reserved

`$0349 (841)` Guests Allowed:

0 - No
1 - Yes

`$0369 (873)` Allow Welcome-Messages to be Aborted:

0 - Yes
1 - No

`$033E (830)` Configuration-byte; bit-values:

0 - Allow 300 Baud users:
0 - No
1 - Yes
1 - Save Caller's Log:
0 - Yes
1 - No[37]
2 - Auto-feedback after application:
0 - On
1 - Off
3 - Reserved
4 - Feedback:
0 - To Disk
1 - To Printer
5 - Caller Log:
0 - To Disk
1 - To Printer
6 - Validate disk on logoff:
0 - No
1 - Yes
7 - View disk-status:
0 - No
1 - Yes

`$0313 (787)` Carrier-Type:

0 - Normal
16 - Inverted

`$039A (922)` Put modem on hook during local mode:

0 - No
101 - Yes

[37] In C∗Base v3.2 and prior, this is: Callback validation: 0 = Off, 1 = On

`$0340 (832)` Maximum baudrate-setting for the BBS, lowbyte

`- (xxx)` Reserved

`- (xxx)` Reserved

`$039F (927)` Max # of downloads/call

`- (xxx)` Reserved

`- (xxx)` Reserved

`- (xxx)` Reserved

`$0386 (902)` Use separate ASCII-screens:
0 - No
1 - Yes

`$0387 (903)` Modular Subs
N/A in C∗Base v3.3

`$0388 (904)` Modular U/D-areas
N/A in C∗Base v3.3

`$0389 (905)` Modular Remote
N/A in C∗Base v3.3

`- (xxx)` Reserved

`$038B (907)` Device# for Modular Term-Program
N/A in C∗Base v3.3

`$03B4 (948)` Device# for C/BBS

`$03B5 (949)` Device# for U/D-protocols

`$03B2 (946)` Store Sysop-actions in Callers log:
0 - No
1 - Yes

`$034E (846)` Multi-Colour Basing:
0 - No
1 - Yes
N/A in C∗Base v3.3

`$038E (910)` Bright Colour

`$038F (911)` Medium Colour

`$0390 (912)` Dark Colour

`$03B3 (947)` Device# for "C/APP_MOD"

`$03B6 (950)` LT Kernal Device# (Default = 0)

`- (xxx)` Reserved

`$034C (844)` # of Credits/Post

`- (xxx)` Reserved

`$0391 (913)` Max # of Libraries
N/A in C∗Base v3.3

`$0392 (914)` Max # of U/D-dirs

`$0393 (915)` Max # of Subs

`$0394 (916)` Size of `ar$()`

`$0395 (917)` Hour to start trying to call out (Networking)
N/A in C∗Base v3.3

`$0396 (918)` # of Posts/call before U/D-access

`$0397 (919)` # of Posts/call before Module-access
N/A in C∗Base v3.3

`$0344 (836)` Number of Calls Today
Also used as a temporary storage register for importing the number of the sprite-cursor to load (1-4).

`$0399 (921)` # of End-screens (Default = 1)

`$0341 (833)` Maximum baudrate-setting for the BBS, highbyte

`$039C (924)` # of Oneliners

`$03BE (958)` Cursor-colour

`$0373 (883)` Logical Unit for U/D-directory files

`$03E7 (999)` Time to Wait before answering (must be > 0)

`$0398 (920)` U/D title-screen:
0 - No
1 - Yes

`$037D (893)` Create new file for every mail:
0 - No
1 - Yes

`$0366 (870)` Beginning of Primetime
N/A in C∗Base v3.3

`$0367 (871)` # of Prime hours
N/A in C∗Base v3.3

`$034F (847)` # of Open-screens (Default = 1, 8 = Max)

`$035A (858)` # of hours to Wait for Network
N/A in C∗Base v3.3

`$03D5 (981)` Networking:
0 - No
1 - Yes
N/A in C∗Base v3.3

`ez$` `at`-command (Modem init-string)

`e5$` `{Device};{Drive:};{DOS-command}` for the System-disk

File	Type	Special
"C/APP_MOD"	PRG	V, Z

This file is loaded when a user applies for an account on your system (given that you have guest-access set to on). It is used to create new accounts.

"C/BBS"	PRG	V, Z

This is the main-program, which runs the BBS. Here is all the code that handles strings, menus, subs, U/D-areas etc.

"C/BOOT"	PRG	V

This file boots your system up and loads all the other necessary files, including your prompts, into memory.

"C/SYS_SETUP"	PRG	V

This file is the very first file you run; it is used to setup your system. It creates **"STATS"** for you. It also creates **"USERLOG"**, etc. This program can also be used to change settings later on, such as the access to the individual subs or U/D-directories. Furthermore, this program can convert **"STATS"** and **"USERLOG"**-files from earlier versions of C∗Base, and make changes in the setup, after setting up your system (such as adding a new sub or U/D-area)[38].

"C/TOPLISTER"	PRG	V, Z

This file updates the Toplist-files. This is usually done at the first free opportunity after midnight. However, the program can also be forced to recalculate the Toplist-files, by pressing `t` at the wait-screen. This file does not exist in C∗Base v3.2 and earlier.

[38] In v3.2 and earlier of C∗Base, this file is called **"C/SYSTEM_CREATE"**.

File	Type	Special
"D9060_BOOT"	PRG	V

This is a small file meant for those who have a D9060 hard-disk. Use this file to boot the system; if you do not, the system will probably crash when loading the prompts. It might even damage your file-system or HD, so remember to use it.

"DLINE"	SEQ	MM

This file contains the graphics for the line that delimits different entries in the BBS-list, starts and ends the directories in the U/D-area, etc. This file does not exist in C∗Base v3.2 and earlier. These graphics are used quite much, and are accessed via the string `q2$`.

The structure of the file is as follows:

```
{Delimiterline #1}
{Gluechar #1     }
{Delimiterline #2}
{Gluechar #2     }
```

The delimiterline(s) must be exactly 13 chars long. The first delimiterline can be accessed via the string `q9$`, and the second delimiterline via the string `q8$`.

The gluechar(s) is used to glue three copies of line #1 with 3 copies of #2, thus forming a $(13 * 3 + 1) * 2$ chars long line that delimits each entry. Of course, you can skip delimiterline #2 and gluechar #2 entirely, if you only want a single line.

Note: every new line must have *unique* colours; that is, begin with a colour-byte, even if it is the same as the one on the previous. Therefore, it is recommended that you write the graphics with the Message-Maker. It is ok to edit the file in some other program, as long as you check out in the Message-Maker (or another program that handles line/char-wise editing) that there is a colour-byte on each new row.

File	Type	Special
"END"	SEQ	A, M

This file is shown when you log off the BBS. (Unless you press **q** to do a quick logoff).

"FORCE_*x*"	SEQ	MM

This is a FORCED mail-file. The *x* following the filename is the number of the user the mail is meant for. This file is shown to the user whether he likes it or not; it is NOT abortable. These files are created with the Message-Maker with `W`*x*; the *x* is optional, and can be one of the following:

1 Kick the user off the BBS after message has been read

2 Erased the forced mail file after the user has read it

4 Delete the user from the Userlog after the message has been read.
Be careful with this one!

These codes can be added together; **w7**, for instance, would kick the user after reading the message and erase both the **"FORCE_*x*"**-file and the Userlog-entry for that particular user.

"I"	SEQ	

This file is normally used to show information about your system; hardware-specs, software used, the date of opening, name of the sysop and the co-sysop's, etc.

"K/ML_0.O"	PRG	V

This file is the first part of the C∗Base kernel. This one contains some code that is very unlikely to change, and that is the reason why it has been separated from **"K/ML_1.O"**.

File	Type	Special
"K/ML_1.O"	PRG	V

This file is the main part of the C∗Base kernel; it contains almost every important machine-language routine, such as the message-maker, copy-function, MCI-interpreter, et cetera.

"K/ML_2.O"	PRG	V

This is the first of the two jump-tables used to reach the routines beneath the BASIC-ROM (**"K/ML_1.O"** and the protocols) from BASIC. This file also contains some code and two timing-tables used by the NMI-routines.

"K/ML_2.O"	PRG	V

This is the second of the two jump-tables used to reach the routines beneath the BASIC-ROM (**"K/ML_1.O"**) from BASIC, and to reach some of the BASIC-routines from **"K/ML 1.O"**.

"K/NMI.ML"	PRG	X (K/NMI.ML∗, K/SWIFT.Dx∗), V

This file contains the routines for the communication with the RS-232 port.

"K/NMI.ML_TM"	PRG	X (K/NMI.ML∗, K/SWIFT.Dx∗), V

This file is the Turbo-Master version of the NMI.ML-file, and gives you the possibility to hook up C∗Base with 9600 BPS modems without the use of a Swiftlink or a Turbo232.

"K/NMI.ML_TM2"	PRG	X (K/NMI.ML∗, K/SWIFT.Dx∗), V

This is basically the same file as **"NMI.ML_TM"**, but this version makes use of the 2MHz mode available on the C= 128 to make communication smoother.

File	Type	Special
"K/SWIFT.D*x*"	PRG	X (K/NMI.ML∗, K/SWIFT.Dx∗), V

This file contains the necessary NMI that handles the communication with the Swiftlink- and Turbo232-interfaces. There are three different files to choose between; **"K/SWIFT.D7"**, **"K/SWIFT.DE"**, and **"K/SWIFT.DF"**. Depending on what interface page you use (**`$D700`**, **`$DE00`** or **`$DF00`**), choose the appropriate file and install it.

"LCALL.S"	SEQ

This file contains a list of the 5 latest callers. This one is NOT filtered; it contains every single logon. This **"LCALL"**-file is shown on the Wait-screen. The file-format is as follows:

```
[{Time of Call}]:{Alias}
[{Time of Call}]:{Alias}
[{Time of Call}]:{Alias}
[{Time of Call}]:{Alias}
[{Time of Call}]:{Alias}
```

"LCALL.U"	SEQ

This file contains a list of the 5 latest callers. This one is filtered; it does not show back-to-back calls, and local sysop-logons are removed. However, "emulated" logons using **`[F4]`** are not removed.

```
[{User#}]:{Alias}
[{User#}]:{Alias}
[{User#}]:{Alias}
[{User#}]:{Alias}
[{User#}]:{Alias}
{User# of last caller}
```

All User#-entries in the first 5 rows are padded to be 3 chars long, with the system `_x_`, `xx_` or `xxx` depending on # of digits. The colour of the last User# must be the same as the last colour of the alias on the line before. Remember this when you edit this file manually.

The User# of the last caller is used as a reference to avoid duplicate entries when a person does a “Back-to-Back”-call.

File	Type	Special
"LOGON"	SEQ	

This file is shown after you've logged onto the BBS. It often contains some information about you. Since this file is directly followed by the list of the last five callers, it is a good idea to end this file with something like "Last Five Callers" or similar.

"MAIL"	SEQ	A

This file contains graphics for the mail-screen. It should contain info about the four options available there. These are as follows:

```
[S]     Send Message
[R]     Read Message
[C]     Carbon Copy Message
[U]     Userlog Scan
```

File	Type	Special
"MENU"	SEQ	A

This file is shown when you press **?** or **[RETURN]** on the main-screen, and should thus list the commands that can be used there. They are as follows:

```
[Q]     Quick Logoff
[G]     Normal Logoff
[S]     Goto the Subs
[N]     Goto the Subs and begin scrolling new messages
[U]     Goto the U/D-area
[?] or
[Return]        Show this file
[Y]     Shows the file "USER"
[A]     Write an OMNI-message
[M]     Goto the Mail-section
[F]     Leave Feedback
[C]     Request a Chat with the Sysop
[P]     Parameter-Menu
[I]     Shows the file "I", with info about your system
[T]     Goes to the Toplister-menu
[O]     Enter a Oneliner
[B]     BBS-lister
[E]     Select between C= Graphics/ASCII/ANSI
[V]     View all open-messages (Bulletin-files and Omni-messages)
```

There are also two features that should not be listed:

```
[L]     View the "CALLERS" file
[R]     Goto the Remote-area
```

File	Type	Special
"MF"	SEQ	C

This file is shown when you enter Feedback-mode by pressing **`f`** on the Main-screen. The format is as follows:

```
{# of people in list}
{user# of choice #1}
{...}
```

After this, you fill up with graphics that gives the user an idea about whom they choose between. Remember to use the same order here as in the list above, otherwise people might get a little confused...

File	Type	Special
"MSGHELP"	SEQ	A

This file contains information about all the commands available in the message-maker. They are:

```
[.H]    Shows this file
[.R]    Read the message
[.M]    Read the message, but with MCI-commands interpreted
[.V]    Read the message, with line-numbers preceding every line
[.I]    Insert a new line
[.S]    Save the message
[.E]    Edit a line
[.D]    Delete a line
[.A]    Abort the message
[.L]    Load a file (only available for people with Remote-Access)
[.*]    Search/Replace
[.G]    Global Search/Replace
[.Q]    Quiet Mode toggle (toggle Auto-Echo on/off)

[CTRL + W]      Toggle word-wrap
[CTRL + L]      Toggle Upper/Lowercase
[CTRL + U]      Recreate a line (undeletes one char at a time)
[CTRL + Z]      Deletes the last/current line
[CTRL + C]      Centres current line
[CTRL + A]      Insert alias
[CTRL + Y]      Insert location
[CTRL + P]      Insert 1/10th second pause
[CTRL + I]      Insert a CHR$(255) message-separator.
                Only available to people with remote-status
[CTRL + D]      Define a macro (The default macros is an underline)
[CTRL + F]      Print the macro
[CTRL + K]      Cursor Mode: The macro will be used as the cursor;
                if you move the cursor, the macro will
                be printed once for every new position,
                until you turn cursor mode off

The home-key can be used as a "Recorded delete"; every single delete
will be output visibly.
```

MCI-commands (Case-sensitive!):

```
čoa     Current user's handle (na$)
čob     Current user's location (yl$)
čoc     Current user's phone# (pn$)
čod     Current user's real-name (RN$)
čoe     Current user's access-group (GN$)
čof     Current user's latest logon (LO$)
čog     Name of last caller (LC$)
čoh     Time for last call (TC$)
čoi     Sysop in/out (FG$)
čoj     The Sysop's handle (VI$)
čok     Current user's birthdate (BD$)
čol     Current date (DA$)
čom     Current time (TM$)
čon     Current user's computer-type (CT$)
čoo     Last inputted line (I$)

čsx     Slowmode (Where x is a number between 0-9;
                  0 = fastest, 9 = slowest)
čn      Reset everything to normal
čpxy[z] Punctuation mode; x is the text-colour,
        y is the punctuation mark-colour, and z an optional
        colour for the capital letter
črxy[zvw]       Rainbow mode for characters;
                x, y, z, v and w are colours
člxy[zvw]       Rainbow mode for lines;
                x, y, z, v and w are colours
čwxy[zvw]       Rainbow mode for words;
                x, y, z, v and w are colours
```

Note: "/" can be used instead of "."

```
čtxx    Tab to xx, where xx is a value between 0 and 79
        (As 99% of the C= 64 users have 40 chars
        wide screens, an advice is to use values below 40)
čcx     Colour (directly interpreted; these commands are
        for people not using a C= 64 who still
        want to use colour in their messages),
        where x is a letter:

        a       White
        b       Red
        c       Cyan
        d       Purple
        e       Green
        f       Blue
        g       Yellow
        h       Orange (Dark Purple in ANSI, and 128-80 column mode)
        i       Brown
        j       Light Red
        k       Dark Grey (Dark Cyan in ANSI, and 128-80 column mode)
        l       Medium Grey
        m       Light Green
        n       Light Blue
        o       Light Grey
        p       Reverse Video On
        q       Reverse Video Off
```

"MSGMENU" SEQ A

A file viewed before entering the message-maker. This file often contains brief help for the message-maker and/or some graphics. This is NOT the file that is shown when pressing `/h` or `.h` in the message editor, but rather the file that is shown when entering the message-maker.

Refer to the description of **"MSGHELP"** to get a list of commands to choose from. A good idea is to keep this file short, as every user will have to watch it every time he enters the message-maker.

File	Type	Special

"MTERM" SEQ

This file contains a list of the commands available in the Mini-Terminal program (Mini-Term) available from the Wait-screen. The commands are:

```
[F1]    Reset Mini-Term
[R]     Return to Waitscreen
[B]     Select Baudrate
[G]     Graphics Terminal
[A]     ASCII-terminal
[<-]    Goto U/D's
```

"NAMELOG" SEQ R

This file is automagically created by the BBS-program. If it becomes corrupt, just enter the remote-mode and type "!" to recreate it. You should recreate it every time you delete a user, because old entries are not removed from this file unless you recreate it. The file-format is simply:

```
{Alias}
{User#}
{...}
```

"NEW" SEQ A

This file is shown to users with access-group 1 instead of the normal menu-screen, and should list the options available to a new-comer. Unless you have selected "Auto-take Guests to feedback" in the configurations, it's a good idea to have a reminder here that tells the user to write feedback. The commands accessible to a new user is usually (unless you give guests more access[39]):

```
[Q]     Quick Logoff
[G]     Normal Logoff
[F]     Leave Feedback
[C]     Request a Chat with the Sysop
[?] or
[Return]        Show this file
```

[39] Usually a bad idea.

File	Type	Special

"NOPOST" SEQ

This file is shown to a user if he forgot to post during his last call and you have the "Check for No Posting"-option activated.

"OLOG" SEQ

This file contains ALL Oneliners that passed through your system unless you decide to empty it every now and then[40]. In C∗Base v3.2 and earlier, this file is called "MLOG". The format is simply:

```
{Start Date}:{Start Date}

{Alias of Poster}
{Oneliner}
{Alias of Poster}
{Oneliner}
{...}
```

"OMNI" SEQ MM

This is the Omni-message, a sort of Bulletin-message that is shown to everyone after logon. The easiest way to create an OMNI-message is doing it the way it's intended to be; i.e. using the OMNI-writer from the main-menu. The file-format is:

```
{# of call}
{Timestamp added by the BBS-program (It's not necessary)}

{Your message}
```

[40]My **"OLOG"** file was more than 70 blocks big before I backed it up and emptied it the first time. This is NOT recommended. It might get damaged, and thus having you lose a lot of funny Oneliners. It's a great pleasure reading old Oneliners sometimes, especially from periods when "wars" have raged...

File	Type	Special
"ONELINERS"	SEQ	MM

This file contains the Oneliners. The number of Oneliners here depends of how many you have configured in the configuration file. No Oneliner can be longer than 88 chars — a crash is inevitable if they become bigger ("Illegal Quantity Error". Editing this file manually is NOT recommended. If needed, however, use the Message-Maker. In C∗Base v3.2 and earlier, this file is called **"MACROS"**. The format of the file is as follows:

```
{# of Oneliners}
{Oneliner #1}
{...}
```

"OPEN"	SEQ	A, M

This open-screen is shown when you have pressed delete after connecting to the BBS.

"PARAM"	SEQ	A

This is the Parameter-menu; here the user can set up some personal parameters. They are:

```
[A]     Alias Graphics Change (Filtered; you can NOT change your hanc
[L]     Location Graphics Change (Not filtered)
[P]     Change Password
[T]     Toggle Auto-Pause On/Off
[V]     Toggle 40/80 Columns
```

"PRESSDEL"	SEQ

This is the very first thing you're presented with when you are connected to the BBS. This file does not exist in C∗Base v3.2 and earlier.

"P/PUNTER"	PRG	P, V

This is the Punter-protocol; the most common protocol used on the C= 64. This protocol is also known as "C4".

File	Type	Special
"P/X-MODEM"	PRG	P, V

This is the X-Modem protocol. A common, but slow protocol.

"P/X-MODEM1K"	PRG	P, V

This is the X-Modem1k protocol. A faster version of X-Modem; if your terminal program supports this protocol, use it whenever you call a C∗Base BBS.

"RANKCHOICES"	SEQ	A

This file is used both by the Top 10 and Complete ranking-lists in the Toplister to select what list to show.

```
[U]     Blocks Uploaded
[D]     Blocks Downloaded
[F]     Files Uploaded
[L]     Files Downloaded
[P]     Posts
```

"STATS"	SEQ	B, C

This file contains almost all important information needed by the BBS, such as the names of the SUBS, U/D-areas, the device and drive#'s for the files, today's date, number of users on the system, etc. The format of this file is NOT the same as in earlier C∗Base versions; the new format is described in the chapter "What's the Format of the **"STATS"**-file". **Backup, backup, backup!**

File	Type	Special
"SUBOP"	SEQ	A

This file is shown before the normal help-file in the subs when pressing **?** if you are a Sub-operator. These functions are available:

```
[Ex]     Edit user x
[V]      View anonymous poster
[K]      Kill last message
[%]      Change sub-name
[#]      Reset sub
[č]      View access-groups
[čR]     View groups with read-access
[čW]     View groups with write-access
[+Rx]    Give group x read-access
[-Rx]    Take away read-access from group x
[+Wx]    Give group x write-access
[-Wx]    Take away write-access from group x
```

"SUBS"	SEQ	A

This file is shown when you press **?** in the Subs-area, and should thus list the commands that can be used in the subs, which are as follows:

```
[R]      Re-read last post
[Rx]     Read post #x
[P]      Post a message
[*]      Reply to last message
[M]      Mail to last poster
[O]      Re-post lost message
[N]      Read new posts
[C]      Chat with the Sysop
[L]      List available subs
[T]      Show information about sub (the file "T_S_x")
[x]      Goto sub #x
[-] or [<]      Goto previous sub
[+] or [>]      Goto next sub
[UD] or [^]     Goto the U/D?s
[Q]      Return to Main-screen
[?]      View this Help-screen
```

File	Type	Special
"SYSOP"	SEQ	A

This is the help-file shown when pressing **?** in remote-mode. This should suggest that you should include a list of the commands available in remote-mode in this file. These commands are:

```
[$x]    View dir for Logical Unit #x
[Px]    Set dir-pattern to x default is "*"
        (add "=type" where type is [s]eq/[p]rg/re[l], to select
        filetype)
[@x]    Send DOS-command x to the drive
[@]     View disk-status
[.x]    Set x to destination drive for copying
[Cx]    Copy file from Logical Unit #1 to Logical Unit #x
[X]     Specify Drive, Device and DOS-command for Logical Unit #1
[S]     View SEQ-file
[^]     Print SEQ-file
[T]     Change the Date
[W]     Create a file with the Message-Maker
[WO]    Restore a lost message, and edit it with the Message-Maker
[Wx]    Write a "BUL\_y" or "FORCE\_y" file, where x is the access-ty
[!]     Recreate the "NAMELOG"-file
[Dx]    Delete User #x
[Ex]    Edit User #x
[+]     Edit next user
[-]     Editor previous User
[č]     List access-groups
[<-]    Calculate access
[Q] or
[Return]        Return to Main-menu or Wait-screen
[?]     View this Help-screen
```

"TEXT"	PRG	B

This file contains all text-prompts used by the BBS. Make sure you have a backup of it! Refer to the chapter "The Prompts — Explanations" for more information.

File	Type	Special
"TOP10"	SEQ	A

This file should contain a logo saying something like "Top 10", as it is shown when you press **t** to display the Top 10-charts in the Toplister.

"TOPLIST"	SEQ	A

This file is shown when you choose "Toplister" from the Main-menu. Normally it contains a logo saying "Toplist" and a menu with the following choices:

```
[C]     Complete rankings
[T]     Top 10
```

"T_S_*x*"	SEQ

This file describes sub #*x*, and is shown when **t** is pressed in the Subs-area. Most sysops do not use these files, but if there's some sub you want to explain a little further, you can use this file. It is not necessary to have **"T_S_*x*"** files for every sub.

"UD-_*x*"	SEQ

These are the U/D-directory files. There's one file for every U/D-area (*x* is the number of the area). These files are created automagically by the system, and there's no need for you to edit them. If it becomes corrupt, just choose "Reset U/D-file" from the U/D-menu, and re-add all the files that belong in the file. For those interested, the format is:

```
[Uploader's User#]
[Date]
[Program-name]
[Program-type]
[Size]
[Description]
[...]
```

File	Type	Special
"UDOP"	SEQ	A

This file is shown before the normal help-file in the U/D's when pressing **?** if you are an U/D-operator. These functions are available:

```
[<-]    Add selected files to the directory
[&x]    Delete file x from directory
[/x]    Delete file x from directory and drive
[#x]    Delete file x from directory and drive, and take away the cre
[Px]    Set the pattern to x
[!]     Regenerate the directory
[%]     Change the name of the directory
[č]     List Access-groups
[čU]    List groups with Upload-Access
[čD]    List groups with Download-Access
[čC]    List groups with Unlimited-Downloads
[+Ux]   Give Upload-Access to group x
[-Ux]   Take away Upload-Access from group x
[+Dx]   Give Download-Access to group x
[-Dx]   Take away Download-Access from group x
[+Cx]   Give Unlimited-Downloads to group x
[-Cx]   Take away Unlimited-Downloads from group x
[@]     View Drive-status
[@x]    Send a DOS-command
[X]     Enter/Leave exchange-mode
[Xx]    Enter on Logical Unit x
```

File	Type	Special
"UL/DL"	SEQ	A

This is the help-file that is shown when you press [?] in the U/D-area. A good idea is to have it contain a list of the commands available to the user in the U/D-areas. They are:

```
[$]     View directory
[$x]    View directory, starting from file #x
[*]     View directory, with information on every file
[Ax]    View information for file #x
[Rx]    View file #x (sequential files only)
[N]     List all new uploads
[C]     Chat with the sysop
[L]     List directories
[S]     Select files from dir ([Y]es, [N]o, [D]one, [A]bort)
[Sx]    Select file(s) (either x:y:z or x-z)
[SN]    Select all new files
[CS]    Clear selection
[LS]    List selected files
[Dx]    Download file #x
[MD]    Perform a download of all selected files
[U]     Upload a file
[MU]    Perform a Multi-upload
[=]     Toggle between showing "Estimated download-time" and "Upload-
[x]     Goto dir #x
[-] or [<]      Goto previous dir
[+] or [>]      Goto next dir
[SB] or [^]     Goto subs
[Q]     Return to Main-screen
[?]     View this Help-screen
```

"USER"	SEQ	

This file is used to give the user the possibility to check the information about him stored in the "USERLOG", and is accessed from the main-menu. This file usually contains access-status, alias, location, credits, # of posts etc.

It's completely up to you what you put in here, really. A good starting point is the supplied example-file.

File	Type	Special
"USEREDIT"	SEQ	

This file is shown when you edit a user. If you have access to see a persons password, you'll also see prompt #79, which shows a prompt saying something like `K - Password:` and then the password for that user.

As the questions are tied to certain keys, you better keep the order given here. Everything beginning with an `@` is an MCI-command — refer to the chapter about those to get more information and understanding about them. They simply show the value you want here.

```
A - Alias       : @:u$(0):@:D(us):
B - Location    : @:u$(3):
C - Real Name   : @:u$(1):
D - Security    : @:u$(2):,@:u$(21):
E - Phone#      : @:u$(4):
F - Computertype: @:u$(5):
G - Birthdate   : @:u$(6):
H - # of Posts  : @:u$(11):
I - Blocks Up   : @:u$(14):
J - Blocks Down : @:u$(15):
L - Security 2  : @:u$(16):
```

Other things, that are not possible to edit, but still interesting to show, are for instance:

```
* - Last Call at: @:u$(7):
* - Calls Today : @:u$(9):
* - # of Mail   : @:u$(10):
* - Files Up    : @:u$(19):
* - Files Down  : @:u$(18):
```

File	Type	Special
"USERLOG"	REL	B

This file contains the data about all your users. Take regular backups of it! If you lose it, you lose ALL the user-accounts! The Userlog for C∗Base v3.3 does NOT have the same format as that for earlier versions of C∗Base. This, however, is no big problem. There are converters included in the **"C/SYS_SETUP"**-file, both from the v2.x format, and from the old v3.x format. In addition, old v3.x **"USERLOG"** do work without converting, but every user will then be prompted with a "Do not Drop the Carrier" and "Post Every Call" warning when they call the first time (if these options have been activated in **"C/CONFIGURE"**).

I make no attempt here to explain the format of the **"USERLOG"**-file, because editing REL-files is nothing you should do unless you have *very* good knowledge about what you're doing.[41] If you *really* want to know what the format is, you can get that information from me on request.[42]

"VDATA"	SEQ

This file contains version-data for all **"C/"**, **"K/"**, and **"P/"**-files on both the Boot- and the System-disk. It is automagically created every time you reboot the system, and need not be tampered with. The format is a normal readable SEQ-file, though.

[41] Yeah, yeah, I admit, I'm simply too lazy to document it...

[42] Or, as the source-code is available, "Use the source, Luke."

File	Type	Special
"WAIT"	SEQ	B

This screen is shown when nobody is using the BBS, and it contains information about the BBS. Generally, you can have any information on this screen you want to, as it parses MCI-commands, but you should remember a few things:

On the first line of the screen, the system-clock will appear. It will overwrite anything you have on the first line, so a good idea is to begin your wait-file with an empty line.

A five lines long "Last-callers"-list (**"LCALL.S"**) will appear where the cursor is positioned when the screen has been completely drawn, so if you want it in the middle of the screen, like in the file that comes with C∗Base v3.3, simply enter a few **`[CRSR UP]`**'s.

You should keep the included wait-screen as sort of a backup when making changes/a screen of your own, unless you're *very* confident that you can do without it.

In earlier versions of C∗Base, the **"WAIT"**-file was not MCI-parsed. Instead, the BBS wrote what it considered to be interesting information to the screen directly, having the **"WAIT"**-file only for explanations about what the figures showed.

"_*x*"	SEQ	X (_*x*∗)

This is the mail file for user# *x* if compound mail-files are used. These files should not be created manually.

"_*x*_*y*"	SEQ	X (_*x*∗)

This is the mail file for user# *x* if single mail-files are used. *y* decides the number of the mail-file. If, for instance, user #4 has more than one mail waiting, the first file would be named **"_4_1"** and the second one **"_4_2"**. These files should not be created manually.

10 What Is the Format of the **"STATS"**-file?

The **"STATS"**-file is one of the most important files on your BBS. Be sure you back it up every now and then. If you want to edit it manually (you?ll probably want to do this sooner or later), this is how to do it. One important thing: The **"STATS"**-file in C∗Base v3.3 is NOT compatible with the one in earlier versions of C∗Base. Do not try to use an old one without editing it. It **will not** work! Later in this chapter, I provide information about how to convert your old **"STATS"**-file to work with C∗Base v3.3. An easier way to do this, if you have a standard **"STATS"**-file, is to use the built in converter in **"C/SYS_SETUP"**. If you're having trouble, send your **"STATS"**-file to me and I'll do it for you.

10.1 Editing the **"STATS"**-file

There are two different ways of editing the **"STATS"**-file manually. Examples of how to do it follows below.

10.1.1 Editing Using the C∗Base Message-Maker

1. Enter Remote-mode
2. Press **`w`** followed by **`[RETURN]`** (Enter message-maker)
3. Press **`.`** followed by **`l`** (Load file)
4. Enter `stats` as filename
5. Edit the file
6. Press **`.`** followed by **`s`** (Save file)
7. Enter `stats` as filename

10.1.2 Editing Using the TBoard-Painter

Please use v1.1pro or newer, preferably v1.2pro. v1.0 has a small bug that might cause trouble.

1. Press **`[SHIFT + D]`** (Enter the Disk-menu)
2. Press **`r`** (Read file)
3. Enter `stats` as filename
4. Press **`q`** (Leave the disk-menu)
5. Edit the file
6. Press **`[SHIFT + D]`** (Enter the Disk-menu)
7. Press **`@`** (Enter a Disk-Command)
8. Enter `r0:stats.b=stats` as Disk-Command (This renames your **"stats"**-file to **"stats.b"**)
9. Press **`[C= + W]`** (Special write-mode that excludes the first colour-byte)
10. Enter `stats` as filename

10.2 The "STATS"-file for C∗Base v3.3

Note that the references to variables/strings/arrays are just to indicate what information that should be put here. That is, in the first row there should be a number, not the variable-name `cl`.

The first `dr();dr$();dc$()` line is for the Temp-area, the second for the Subs, and the third for Mail. The fourth `dr();dr$();dc$()` line indicates the start of the U/D-directories, and `...` is simply a place-holder for the rest of the U/D-areas; one line for every U/D-area.

```
cl
vi$
da$, em, em%, nu%, mu%, dg%, ns%, nd%, as%
dr(1);dr$(1);dc$(1)
dr(2);dr$(2);dc$(2)
dr(3);dr$(3);dc$(3)
su$(ns%)
rq%(ns%), rw%(ns%), z%(ns%), ra(ns%), wa(ns%), so%(ns%), ap%(ns%)
dr(4);dr$(4);dc$(4)
...
u1(nd%), u2(nd%), u3(nd%), uo%(nd%), dn$(nd%)
lc$
tc$
```

Variable	Description
`cl`	Total number of calls to the BBS
`vi$`	System name for the Sysop[43]
`da$`	Current Date
`em`	Current # of mail files
`em%`	Maximum amount of mail files
`mu%`	Maximum amount of users
`dg%`	# of Messages/Packet
`ns%`	# of Subs
`nd%`	# of U/D-areas
`as%`	# of Sub to Auto-post uploads in
`dr()`	Device#
`dr$()`	Drive#
`dc$()`	Disc Command
`su$()`	Name of Sub
`rq%()`	# of Messages in Sub
`rw%()`	Maximum # of Messages in Sub
`z%()`	Highest Message # in Sub
`ra()`	Read-access to Sub
`wa()`	Write-access to Sub
`so%()`	ID# of Sub-operator
`ap%()`	Anonymous Posting: 0 = Not Allowed 1 = Allowed
`u1()`	Upload-access for U/D-area
`u2()`	Download-access for U/D-area
`u3()`	Unlimited credits-access for U/D-area
`uo%()`	ID# of U/D-operator
`dn$()`	Name of U/D-area
`lc$`	Alias of Last Caller
`tc$`	Time of Last Call

[43] Not the user-graphics for User #1

10.3 The old **"STATS"**-file and How to Convert It

This is the format of the old **"STATS"**-file, and how to modify it to become compatible with the new format:

```
cl
vi$
da$, em, em%, nu%, mu%, dg%, ns%, nd%, lb%
dr(1);dr$(1);dc$(1)
dr(2);dr$(2);dc$(2)
dr(3);dr$(3);dc$(3)
dr(4);dr$(4);dc$(4)       % Remove
dr(5);dr$(5);dc$(5)       % Remove
su$(ns%)
rq%(ns%), rw%(ns%), z%(ns%), ra(ns%), wa(ns%), so%(ns%), ap%(ns%)
dr(6);dr$(6);dc$(6)
...
u1(nd%), u2(nd%), u3(nd%), uo%(nd%), dn$(nd%)
lb%(lb%), lb$(lb%)        % Remove
lc$
tc$
```

By replacing `lb%` with `ap%`, and removing the lines with the comment "Remove", the file should be in the new format.

Variable	Description
`cl`	Total number of calls to the BBS
`vi$`	System name for the Sysop[44]
`da$`	Current Date
`em`	Current # of mail files
`em%`	Maximum amount of mail files
`mu%`	Maximum amount of users
`dg%`	# of Messages/Packet
`ns%`	# of Subs
`nd%`	# of U/D-areas
`lb%`	# of Library sections
`dr()`	Device#
`dr$()`	Drive#
`dc$()`	Disc Command
`su$()`	Name of Sub
`rq%()`	# of Messages in Sub
`rw%()`	Maximum # of Messages in Sub
`z%()`	Highest Message # in Sub
`ra()`	Read-access to Sub
`wa()`	Write-access to Sub
`so%()`	ID# of Sub-operator
`ap%()`	Anonymous Posting: 0 = Not Allowed 1 = Allowed
`u1()`	Upload-access for U/D-area
`u2()`	Download-access for U/D-area
`u3()`	Unlimited credits-access for U/D-area
`uo%()`	ID# of U/D-operator
`dn$()`	Name of U/D-area
`lb%()`	Read-access to Library
`lb$()`	Name of Library
`lc$`	Alias of Last Caller
`tc$`	Time of Last Call

[44] Not the user-graphics for User #1

11 The Prompts — Explanations

A very essential part of C∗Base are the prompts. They are stored in a PRG-file named **"TEXT"**. The prompts are stored in normal PETSCII format with colour-codes (same format as in the SEQ-files), and are separated with a `chr$(13)` — that is, a normal Carriage Return. Where Carriage Return is normally found, it has been replaced with `chr$(136)`, which normally is the equivalent of pressing **[F7]**.

You can also use **[F1]** (`chr$(133)`) for a random, bright colour, **[F3]** (`chr$(134)`) for a random, medium colour and **[F5]** (`chr$(135)`) for a random, dark colour, to select different between the different MCI-colours (however, this is quite useless, as this feature has been remove from this C∗Base v3.3. I might reactivate it in a later release, though).

There are 122 different prompts, most of them using MCI-commands more or less frequently. Remember that all MCI-commands are case-sensitive!

You can style the prompts in any way you see fit, but do not forget that you can NOT put any colour-data into `@` MCI-commands, with an exception for the `@:h{colour}{stringname or ""}:`-command and the `@:2"{colour1}{colour2}{colour3}{...}":`-command, both explained further in the chapter "The MCI-commands".

11.1 What Are the Different Prompts Good For?

This section aims to describe the use of every prompt, and to give a hint on what it can/should contain. All prompts marked with an asterisk (*) are only seen by remote-users, or on very rare occasions, and are probably likely candidates for design-simplification if the memory is running out.

Prompt#	Title

1 Main-prompt Part 1, unlimited time version

This version of Part 1 of the Main-prompt is shown to users that have no online-time restrictions. It should contain the Graphics you want for the first part of the prompt. The second part can be found in prompt #16.

```
čnUnlimited Time[F7]
```

2 Main-prompt Part 1, limited time version

This version of Part 1 of the Main-prompt is shown to users that have restrictions for their online-time. The MCI-command in the example generates the needed information. The prompt should contain the Graphics you want for the first part of the prompt. The second part can be found in prompt #16.

```
čn@:J(D(fg),2):  minutes[F7]
```

3 Reserved for future use

This prompt is reserved for future use; in C∗Base v3.2 and earlier, it was used for Libraries.

4 Line-number viewer

This prompt is used when viewing text that has line-numbers attached to the beginning of the row. It is used both in the Message Maker and when showing the list of Oneliners.

```
@:J(D(i),2)::[F7]
@:l$(i):[F7]
```

5 Correct?

This prompt is shown whenever the program needs user-verification for an action.

```
[F7]
Correct (y/n):
```

Prompt#	Title

6 Choose one:

This prompt is shown whenever you are requested to make a choice from a list.

```
[F7]
Choose one:
```

7 Copyright notice

This prompt is a copyright notice/version-notice. While you are free to redesign it, please do not remove it. It's shown when you log out from the BBS.

```
[F7]
C*Base v3.3[F7]
(C) Copyright 2003 David Weinehall[F7]
```

8 Erase

This prompt is shown when the Message-Maker erases lines, and lists the lines that were erased.

```
Erase@:D(ls%):[F7]
```

9 Sub list-entry

This prompt is used when listing the subs using the **l** command. It contains graphics for one line, which, with the help of the MCI-commands, then transform itself to show information about every entry.

```
@:J(D(nq),2):čt03:@:su$(i):čt30New:@:D(b):[F7]
```

10 U/D list-entry

This prompt is used when listing files in the U/D-areas using the **l** command. It contains graphics for one line, which, with the help of MCI-coomands then transform itself to show information about every entry.

```
@:J(D(nq),2)::   @:dn$(z):[F7]
```

Prompt#	Title

11 Continues

This prompt is shown when scrolling of text in the Message Maker is aborted.

```
[F7]
Continues...[F7]
```

12 Directory list-entry part 1

This prompt is used when showing directories, both from remote-mode, and from the U/D-area. It contains graphics for one line, which, with the help of MCI-coomands then transform itself to show information about every entry. In the U/D-area, it is followed by either prompt #13 or prompt #121.

```
@:J(D(nq),2):čt04@:J(D(bk),2):čt09@:c$:čt14@:nf$:@:d$:
```

13 Directory list-entry part 2 version A

This prompt is used when showing the directory from U/D-areas, if display of the upload-time is chosen.

```
čt31@:mt$:
```

14 Press Return

This prompt is shown whenever the BBS wants you to press return.

```
[F7]
(Press Return)
```

Prompt#	Title

15 Leave Feedback?

In C∗Base v3.2 and earlier, this prompt was used to say "Loading" when loading **"C/APP_MOD"**. In C∗Base v3.3, it is used to show a prompt asking the user if he/she wants to leave feedback; it is shown if the sysop is out and someone requests a chat.

```
[F7]
Leave Feedback (Y/n):
```

16 Main-prompt Part 2

This is the second part of the main-prompt. Depending on whether you you want to use 24 Hour Time Format (Military Time) or not, you have to use different prompts. The strange look of the 24 Hour version of the prompt depends on the fact that it removes the trailing 3 characters " MT" before printing the prompt.

24 Hour Format version:

```
@:H(tm$,C(tm$)[C= + Q]3):[F7]
#>
```

12 Hour Format version:

```
@:tm$:[F7]
#>
```

17 Graphics at xxxx Baud

This prompt is only shown to callers that have a PETSCII compatible terminal program, after pressing **[DELETE]** to select terminal-mode.

```
[CLR/HOME]
Baudrate:@:D(br):[F7]
Termmode:  Graphics[F7]
[F7]
```

Prompt#	Title

18 ASCII/ANSI at xxxx Baud

This prompt is only shown to callers that have an ASCII or ANSI compatible terminal program, after pressing **[DELETE]** to select terminal-mode.

```
[CLR/HOME]
Baudrate:@:D(br):[F7]
Termmode:  ASCII/ANSI[F7]
[F7]
```

19 Enable ANSI?

This question is shown to the caller after prompt #18.

```
Enable ANSI (Y/n):
```

20 Start Transfer

This prompt is shown when the user does an up- or download.

```
[F7]
[F7]
- Start Transfer Now (Ctrl+X Aborts) -[F7]
[F7]
```

21 Description

This prompt is shown to a user that wants to upload something. It asks for a description of the file(s) being uploaded.

```
Description:
```

Prompt#	Title

22 Sub list-header

This prompt is shown before the list of subs (prompt #9), and is a simply a list-header.

```
_#__Sub-Name________[F7]
[F7]
```

23 Abort/Skip/Pause

This prompt when scrolling posts in the Subs.

```
[F7]
(A)bort / (S)kip / (Space) pauses[F7]
```

24 Subs main-prompt

This prompt is the main-prompt in the Subs-area.

```
[F7]
Sub#, L, P, Q:
```

25* Edit User

This prompt is shown to users with enough remote-acces to edit other users when they have read a mail from somebody. This prompt is followed by prompt #26.

```
(E)dit User[F7]
```

26 Reply or View again

This prompt is shown after reading mail.

CBex[(R)eply or (V)iew again:]

Prompt#	Title

27 Keep Mail?

This question is asked when you have finished reading a letter and leave prompt #26.

[F7]
`Keep Mail (y/N):`

28 ID# or Handle

Shown when sending a mail to someone.

[F7]
`ID# or Handle:`

29 Mailing

This prompt is shown after you have pressed `.s` in the message-maker to send your mail.

[F7]
[F7]
`Mailingčs3...čn`**[F7]**

30* Edit/Save

This prompt is shown when you are in the user-edit mode. Depending on whether you are allowed to see and change the user's password, it may be followed by prompt #79.

[F7]
`Edit (A-K), (S)ave:`

Prompt#	Title

31 Logoff?

This prompt is shown if you press **g** on the main-screen.

```
[F7]
Logoff (y/N):
```

32 Reserved for future use

In C∗Base v3.2 and prior, this was the first prompt shown to a caller, and contained a presentation of the system. In C∗Base v3.3, this is handled by the file **"PRESSDEL"** instead (since it is immediately followed by prompt #68, "Press delete").

33 Id/Handle/Guest

This prompt is the first of the logon-prompts. It is shown after the **"OPEN"**-screen has been shown.

```
[F7]
ID#, Handle or (G)uest:
```

34 Invalid

This prompt is shown if the caller entered an incorrect user-id or handle.

```
[F7]
Invalid, try (G) for Guest[F7]
[F7]
```

35 Read Mail?

This prompt asks the user whether he/she would like to read his/her mail or not. This prompt after the user has logged on.

```
Read Mail (Y/n):
```

Prompt#	Title

36 Enter Password

If the user entered a valid user-id or handle, this prompt is the next to appear.

```
Enter password:
```

37 Complete Your Phone-number

If you have Phone#-completetion activated, this prompt will be shown to the user if the correct password is entered.

```
Complete Phone#
```

38 Reserved for future use

In C∗Base v3.2 and prior, this prompt was used in **"C/APP_MOD"** to inform the caller that too much information has been input. This text has been made a part of **"C/APP_MOD"** instead, to save prompt-space.

39 Reserved for future use

In C∗Base v3.2 and prior, this prompt was used in **"C/APP_MOD"** to inform the caller that **"USERLOG"** is being scanned for a free user-id. This text has been made a part of **"C/APP_MOD"** instead, to save prompt-space.

40 Reserved for future use

In C∗Base v3.2 and prior, this prompt was used in **"C/APP_MOD"** to inform the caller that **"USERLOG"** is full. This text has been made a part of **"C/APP_MOD"** instead, to save prompt-space.

41 Enter a Oneliner

This prompt is shown if the user presses **o** at the main-screen.

```
[F7]
Enter a Oneliner:[F7]
```

Prompt#	Title

42 Entering chat-mode

This prompt is used to inform the user that the sysop is online and that the BBS is now in chat-mode.

```
[F7]
Entering chat-mode
[F7]
```

43 Leaving chat-mode

This prompt is used to inform the user that the sysop is no longer online and that the BBS is no longer in chat-mode.

```
[F7]
Leaving chat-mode
[F7]
```

44 Message-Maker prompt

This is the command prompt shown in the Message-Maker when you press `.` or `/`.

```
#>
```

45 Search for:

This prompt is shown in the Message-Maker for `.*` and `.g` (search/replace and global search/replace respectively).

```
Search for:
```

46 Replace with:

This prompt follows prompt #45.

```
Replace with:
```

Prompt#	Title

47 Global replace

This prompt is shown before prompt #45 if `.g` was pressed.

```
Global replace
```

48 Lines/Bytes

This prompt is shown in the Message-Maker on entry and every time the message is read. It contains information on how long the message is, both in lines and in bytes.

```
[F7]
Lines:@:J(D(ls%),2):  Bytes:  @:J(D(j),2):[F7]
[F7]
```

49 Enter text

This prompt is shown in the Message-Maker when you press `.e` to edit a line.

```
[F7]
(Backspace = Delete, CTRL+U = Undelete)[F7]
Enter text:[F7]
```

50 Word wrap on

This prompt is shown when you toggle word wrap on in the Message-Maker.

```
Word wrap on[F7]
```

51 Word wrap off

This prompt is shown when you toggle word wrap off in the Message-Maker.

```
Word wrap off[F7]
```

Prompt#	Title

52 Line counter

This prompt is used to show the line# in front of every line when you press `.v` (read message with line-numbers prepended to every line) in the Message-Maker.

`@:J(D(B(176)`**`[C= + N]`**`B(177)`**`[C= + D]`**`256),2):`

53 Auto-post uploads?

This prompt is used to ask users whether they want a description of their uploads automatically posted in the sub-board meant for discussions about uploads. In C∗Base v3.3 and prior, this prompt was reserved for future use.

`[F7]`
`Auto-post uploads (y/N):`

54 Define macro

This prompt is shown when you press **`[CTRL + D]`** to define a macro in the Message-Maker.

`[F7]`
`Define macro:`

55* Message memory full

This prompt is shown if the entire message-memory (8192 bytes) becomes full when writing/editing a text in the Message-Maker. Hopefully not too likely.

`[F7]`
`Message memory full!`**`[F7]`**

56 User frozen

This prompt is shown when the sysop takes control of the BBS while a user is online.

`Please hold on - Sysop interfering!`**`[F7]`**

Prompt#	Title

57 User released

This prompt is used when the sysop releases control of the BBS again.

```
You're in control again...
```

58 Insert line

This prompt is shown when you press `.i` to insert a line in the Message-Maker.

```
Insert line:
```

59 Read

This prompt is shown when you press `.r` (read message), `.m` (read message with MCI-interpretation) or `.v` (read message with line-numbers prepended to every line) in the Message-Maker.

```
Read[F7]
```

60 Save

This prompt is shown when you press `.s` (to save) in the Message-Maker.

```
Save[F7]
```

61 Edit line

This prompt is shown when you press `.e` (edit) in the Message-Maker.

```
Edit line #:
```

62 Delete line

This prompt is shown when you press `.d` (delete) in the Message-Maker.

```
Delete line(s) (First ; Last):
```

Prompt#	Title

63 View with line-numbers

This prompt is shown when you press `.v` (read message with line-numbers prepended to every line) in the Message-Maker.

`View with line#'s`**[F7]**

64 Abort?

This prompt is shown when you press `.a` (abort) in the Message-Maker.

`Abort (y/N):`

65 Help

This prompt is shown when you press `.h` (help) in the Message-Maker.

`Help`**[F7]**

66 Load

This prompt is shown when you press `.l` (load) in the Message-Maker.

`Load`**[F7]**

67 MCI-read

This prompt is shown when you press `.m` (read message with MCI-interpretation) in the Message-Maker.

`MCI-read`**[F7]**

Prompt#	Title

68 Press delete

This prompt is shown to a caller after the file **"PRESSDEL"**. It urges the caller to press **[DELETE]**. From the keycode of the keypress, the BBS-program then determines whether the caller has a PETSCII-machine or an ASCII/ANSI-machine. This prompt is also shown when you choose e from the main menu.

```
[F7]
Press Delete![F7]
[F7]
```

69 Reserved for future use

In C∗Base v3.2 and prior, this prompt was used by the libraries; in C∗Base v3.3 this prompt is reserved for future use.

70 Sub view prompt

This is one of two prompts used in the Subs-area. This one is shown when viewing posts; it give information about the current Sub.

```
čnSub#@:J(D(qn),2)::  @:su$(vi):[F7]
@:J(D(x%),2):-@:J(D(z%(vi)),2):/Last=@:J(D(z%(vi)[C= + Q]\
nn%),2):/@:J(D(nn%),2):  New[F7]
#>
```

71* Remote prompt

This prompt is the remote prompt.

```
User#@:J(D(us),2):/Drive:@:J(D(de),2):/@:y$[C= + N]pt$:[F7]
#>
```

Prompt#	Title

72 U/D-area prompt

This prompt is shown in the U/D-area.

```
čn[F7]
[F7]
UD#@:J(D(qn),2)::  @:dn$(dn):[F7]
@:q5$:/@:cr$:[F7]
#>
```

73* Entering exchange-mode

This prompt is shown when entering exchange-mode.

```
@:J(D(ms),2):[F7]
Entering exchange-mode[F7]
[F7]
```

74 Message-header

This prompt is shown on top of every message (mail or post). For a beginner, this prompt probably looks extremely complicated; but once you get the hang of how `@`-commands and `č`-commands work, things become far easier to comprehend. For more information, read the chapter "Mastering C∗Base", subsection "The MCI-commands", especially the parts about the `@:h{colour}"":`-command and the `čv{number}`-command.

```
čn@:J(D(ms),2):[F7]
@:q2$:čv1čt27čv2[F7]
čv3čt27čv4[F7]
@:1"-><":@:2"{colour 1}{colour 2}{...}":@:h{colour}"":[F7]
```

In the context of prompt #74, `čv0` through `čv6` has the following meanings:

`v0`	Message topic	`v4`	Creation time
`v1`	Author's handle	`v5`	Network Node ID (N/A)
`v2`	Creation date	`v6`	Network Node Name (N/A)
`v3`	Author's location		

Prompt#	Title

75 Press any key

This prompt is shown whenever the BBS-program waits for a keypress from the user.

```
Press any key
```

76 Echo toggled

This prompt is shown in the Message-Maker when echo is toggled on/off via `.q`.

```
Echo toggled![F7]
```

77 Anonymous?

If the particular Sub is configured to access anonymous posts, this question is asked when a user posts a message.

```
Anonymous (y/N):
```

78 Estimated time

This prompt shows an estimation of how long an up- or download will take.

```
[F7]
[F7]
(@:d$:@:D(bk):  Blks in@:D(a):  min.)[F7]
[F7]
```

79 Edit password

This prompt is shown to users with access to edit/view a user's password, when editing a user in remote-mode.

```
(K)Password:  @:u$(8):[F7]
```

Prompt#	Title

80 Autologoff

This prompt is shown to users that perform multi-downloads, or choose to auto-post their multi-uploads. In C∗Base v3.2 and prior, this prompt was reserved for future use.

```
[F7]
Autologoff when done (y/N):
```

81* Enter new info

This prompt is shown when editing users remotely.

```
[F7]
[F7]
Enter new info[F7]
#>
```

82 Subject

This prompt is shown when writing mail, feedback, an omni-message or a post.

```
Subject:
```

83* Enter remote-bit

This prompt is shown when editing a user, if done locally or of the person doing the editing has 255 as their `rm%`-value[45]

```
Enter rm% value:
```

[45] Usually only the sysop. Anything else is *not* recommended.

Prompt#	Title

84* **300 Baud not allowed**

This prompt is shown to callers that are using 300 Baud modems, if the BBS is configured to disallow such callers.

```
No 300 Bauders!
```

85 **Not changed**

This prompt is shown if editing a line (with `.e`) in the Message-Maker without making any changes.

```
[F7]
[F7]
Not changed![F7]
[F7]
```

86 **Changed**

This prompt is shown if editing a line (with `.e`) in the Message-Maker without making any changes.

```
[F7]
[F7]
Changed![F7]
[F7]
```

87 **Goodbye message**

This prompt is shown when logging off the BBS using `g` at the main menu.

```
[F7]
[F7]
Good bye![F7]
[F7]
[F7]
```

Prompt#	Title

88 Reserved for future use

In C∗Base v3.1 and prior, this prompt was used to remind the user to select files in exchange mode and when performing a multi-download. In C∗Base v3.2 and onward this prompt is reserved for future use.

89 Scroll userlog

This prompt is shown when viewing the **"USERLOG"** (from the Mail-menu); it prints the total number of users, and asks what user# to begin with.

```
[F7]
# of users :@:D(nu%):[F7]
Start at:
```

90 Chat subject

This prompt is shown when a caller wants to page the Sysop for a chat.

```
[CLR/HOME]
Reason for chat:
```

91 Yes

This prompt is shown when a question is answered with **y**.

```
Yes[F7]
```

92 No

This prompt is shown when a question is answered with **n**.

```
No[F7]
```

Prompt#	Title

93* **Filename:**

This prompt is used when loading a file in the Message-Maker and when printing or viewing a file from the remote-prompt.

```
[F7]
[F7]
Filename
```

94 **Paging sysop**

This prompt is shown when a caller pages the sysop for a chat.

```
Paging Sysop
```

95 **Add or View**

This prompt is shown when viewing the BBS-list.

```
[F7]
[F7]
(A)dd or (V)iew the@:o$:?[F7]
#>
```

96* **Device#**

This prompt is shown when `x` is pressed at the remote-prompt.

```
Device#:
```

97* **Drive#**

This prompt prompt follows prompt#96. remote-prompt

```
Drive#:
```

Prompt#	Title

98* **DOS command**

This prompt follows prompt#97.

```
DOS cmd:
```

99* **Delete**

This prompt is shown when viewing **"CALLERS"**, **"OLOG"**, and **"CAT"**.

```
[F7]
Delete (y/N):
```

100 **Entering**

This prompt is shown when entering an U/D-area.

```
[F7]
Entering:@:dn$(2):[F7]
```

101 **Locating user**

This prompt is shown sending mail/feedback.

```
[F7]
Locating:@:D(fu):[F7] [F7]
```

102 **Mail to**

This prompt is shown when sending mail to a user as reply to a post.

```
[F7]
Mail to:@:u$(0):[F7]
```

Prompt#	Title

103 Directory header

This prompt is used as a header when viewing the contents of a directory in the U/D-areas.

```
[CLR/HOME] _#__Blks_Type_Filename_
```

104 Date

This prompt is one of two prompts that may follow prompt#103.

```
čt31_Date_[F7]
```

105 Delimiter line

This prompt simply prints the delimiter line, that is, the contents of `q2$`.

```
@:q2$:
```

106* Copying file

This prompt is shown when deleting messages in the Subs and when copying files from the remote-prompt.

```
[CLR/HOME]
[F7]
Copying file @:p$:[F7]
[F7]
[F7]
```

107 Reserved for future use

In C∗Base v3.2 and prior, this prompt was used to ask the user to set a Baud-rate in the range of 300-600. In C∗Base v3.3 this prompt is reserved for future use.

Prompt#	Title

108 Yes/No/Done/Abort

This prompt is shown when selecting files in the U/D-areas and in exchange mode.

```
[F7] (Y)es/(N)o/(D)one/(A)bort:
```

109 Blocks and bytes free

This prompt is shown after listing a directory. It shows the number of blocks and bytes free on the disk.[46]

```
[F7]
Blocks free:@:D(bk):  Bytes free:@:D(bk[C= + D]254):[F7]
```

110 Upload filename

This prompt is shown when you upload a single file.

```
[F7]
[F7]
Upload filename:
```

111 Auto-pause toggled

This prompt is shown when you toggle auto-pause on/off.

```
[F7]
Auto-pause toggled[F7]
[F7]
```

[46]Because of the way the CBM file system works, each block can only hold 254 bytes, not 256, hence the 254 in the calculation.

Prompt#	Title

112 You have new messages

This prompt is shown to users that have new mail.

```
[F7]
You have @:D(mw%):  messages[F7]
[F7]
```

113 Reserved for future use

This prompt is reserved for future use in C∗Base v3.3. In C∗Base v3.2 and prior, this prompt was used to print “Loading...”.

114 Invalid command

This prompt is shown when a user tries to perform an action they do not have enough access for, or an undefined command.

```
[F7]
Invalid command![F7]
```

115 New messages

This prompt is shown in the Subs when scrolling messages with `n` or `s`.

```
[F7]
@:su$(vi):@:D(nn%):  New messages[F7]
```

116 Scroll from

This prompt is shown in the Subs when scrolling messages using `s`. It asks what message to begin at.

```
[F7]
Scroll from (@:J(D(ms[C= + N]1),2):):
```

Prompt#	Title

117 Saving

This prompt is shown when saving a message (`.s`) in the Message-Maker.

```
[F7]
Saving[F7]
```

118 X-Modem Filetype

This prompt is shown when performing an up- or download using X-Modem.

```
[F7]
1.)  Program[F7]
2.)  Text[F7]
[F7]
#>
```

119 Post First

If "# of Posts before U/D access" is set to something other than 0, and if the user is not member of any group that has "Bypass Postcheck" set to 'Y', this prompt will be shown if the user tries to enter the U/D-areas before posting something first.

```
[F7]
Post First![F7]
```

120 Network-post header

This prompt is reserved for future use in C∗Base v3.3. In C∗Base v3.2 and prior, this prompt is used when networking is activated.

121 Directory list-entry part 2 version B

This prompt is used when showing the directory from U/D-areas, if display of the estimated download time is chosen.

```
čt31@:mt$:
```

122 Reserved for future use

This prompt is reserved for future use in C∗Base v3.3. In C∗Base v3.2 and prior, this prompt was used to print “Loading...”.

12 Mastering C∗Base

12.1 The Status-Window and Function Keys

The 2 rows of text visible at the top of the screen whenever there's someone logged on to the BBS, together form the Status-Window. The window is built up like this:

```
{User#}{Username}{Phone#}
{Access-Group}{Time-limit}{Blks Uploaded}{Blks Downloaded}
```

Pressing **[F5]** will make a cursor visible on the first of the four fields on the second row. Now you can press **[F1]** to increase that value, or **[F2]** to decrease it. If the access-group is highlighted, changes will be at a rate of 1, the time-limit by steps of 10, and Blocks in steps of 100.

Pressing **[F3]** will take the user to the main-system prompt, while **[F5]** will take him to the remote/sysop maintenance prompt. **[F6]** will put the user on hold, disabling him of her from doing anything and seeing what happens on the sysop-side. This is the only way to bypass the remote-access limit (normally the remote-access bit cannot be altered by anyone without 255 as remote-access). Pressing **[F6]** once more will unfreeze him/her.

Pressing **[F7]** will enter (or leave) chat-mode.

Pressing **[F8]** will kick the current user off the board.

12.2 How to use Miniterm

Once you have entered terminal-mode, with `a` for an ASCII terminal, or `g` for a Graphics terminal, your options are (apart from entering Hayes-commands):

```
[F1]    Exit back to the Miniterm-menu
[F3]    Open text-buffer
[F5]    Close text-buffer
[F7]    Reset text-buffer
```

The buffered text is stored in the message-memory, and can be recovered via the `wo` command from the remote-prompt. Note that the buffer will be spoiled if you use X-Modem1K to up- or download something, as it uses the same memory area for buffering.

If you want to up- or download something, you would do it like this:

1. Press **[F1]** to return to main-screen
2. Enter the U/D-areas with `<-`
3. Give yourself Maximum-access using **[F1]/[F2]** together with **[F5]** (See the "The Status-Window and Function Keys"-paragraph above
4. Enter exchange-mode with `x`
5. Do an upload to your BBS if you want to download something from another BBS
6. Do a download from your BBS if you want to upload something to another BBS
7. Return to Miniterm with `q`

12.3 The MCI-commands

The MCI-commands are something that REALLY makes C∗Base a good BBS-program. With them you can print text slower, with alternating colours for every letter/word/line, add a short pause somewhere, output information about the user, accept input that can be compared to something else later, wait for a keypress, and best of all: perform ALL BASIC-functions (not the commands) and output the result as a string.

The MCI-commands are divided into two categories; the č-commands, which can be accessed with all users that have MCI-access, and the @-commands that only users with remote-access can use.

12.4 č-commands

12.4.1 Colour

Command	Explanation
čc*x*	Change text-colour. Directly interpreted; these commands are for people not using a PETSCII-machine that still want to use colour in their messages. *x* is a letter: **a** White **b** Red **c** Cyan **d** Purple **e** Green **f** Blue **g** Yellow **h** Orange (Dark Purple in ANSI, and 128-80 column mode) **i** Brown **j** Light Red **k** Dark Grey (Dark Cyan in ANSI, and 128-80 column mode) **l** Medium Grey **m** Light Green **n** Light Blue **o** Light Grey **p** Reverse Video On **q** Reverse Video Off

12.4.2 Output

Command	Explanation
čo*x*	Output information, generally relative to the online user. *x* is a letter: **a** Current user's handle (`na$`) **b** Current user's location (`yl$`) **c** Current user's phone# (`pn$`) **d** Current user's real-name (`rn$`) **e** Current user's access-group (`gn$`) **f** Current user's latest logon (`lo$`) **g** Name of last caller (`lc$`) **h** Time for last call (`tc$`) **i** Sysop in/out (`fg$`) **j** The Sysop's handle (`vi$`) **k** Current user's birthdate (`bd$`) **l** Current date (`da$`) **m** Current time (`tm$`) **n** Current user's computer-type (`ct$`) **o** Last inputted line (`i$`)
čv*x*	Output contents of string-variables 0-9. These variables are NOT variables in the BASIC-memory, but rather the first ten strings in the Input-buffer at **`$CE00`**. As the contents of this buffer constantly changes, there is very limited use for this command, but when you edit the text-prompt which contains the header of a message, this prompt is used to access the different information, such as poster, date of posting, topic etc.

12.4.3 Input

Command	Explanation
`či0`	Input a line of text terminated by **`[RETURN]`**; at most 255 characters will be input. The contents are placed in the string `i$`, and can be viewed using `čoo`.
`či1`	Wait for a keypress. The PETSCII-value of this keypress is placed at **`$CF00 (52992)`** for future use.

12.4.4 Formatting

Command	Explanation
`čn`	Reset everything back to normal (Important command!)
`čs`*x*	Slowmode. *x* is a number between 0-9; 0 = fastest, 9 = slowest.
`čp`*xyz*	Punctuation colour mode. *x* is the text-colour, *y* is the punctuation mark-colour, and *z* an optional colour for capital letters.
`čr`*xyzvw*	Rainbow mode for characters. *x*, *y*, *z*, *v*, and *w* are colours; of these, *z*, *v*, and *w* are optional.
`čl`*xyzvw*	Rainbow mode for lines. *x*, *y*, *z*, *v*, and *w* are colours; of these, *z*, *v*, and *w* are optional.
`čw`*xyzvw*	Rainbow mode for words. *x*, *y*, *z*, *v*, and *w* are colours; of these, *z*, *v*, and *w* are optional.
`čt`*xx*	Tab to *xx*, where *xx* is a value between 0 and 79 (since 99% of 64-users have 40 chars wide screens, it is advisable to use values below 40). The value must have 2 digits.

12.4.5 Control

Command	Explanation
`čb`	Branch if comparison proved false. If the `@`-command has been used for to compare two statements, and the result was false, this command will cause all output to cease until the next occurence of `čn` or `@l`.
`čl`	This command sets a return label for the branch-command. Upon reaching the `čl`, the MCI-parse will resume its text-output. A branch/label combination can be used to make bulletins where certain sections are only visible to certain users.

12.5 @-commands

While the č-commands are funny to play around with, and possible to use to create effects with text, they do not provide string-manipulating possibilities.

This is provided by the @-commands. These commands can parse string-expressions, and understands all functions from the 64 BASIC. This makes the @-command *very* useful. If you for instance would like to output the contents of the string *tm$* (system time), you'd simply enter `@:tm$:`. If you want to output the contents of memory position 997, you'd type `@:`**`[SHIFT + D]`**`(`**`[SHIFT + B]`**`(997)):`

Hopefully this can give you a hint about just how powerful these commands really are. You can also perform a comparison between two expressions, for use with the `čb` command. Finally, there are three very special @-commands; the header-command and two commands used to configure that command.

12.5.1 Header-commands

`@:h{line-colour}{string-name}:`

This command will output a centred string surrounded by two lines of graphics. With default settings, it would look something like this:

Figure 1: Separator line

The line and border-elements can be configured, and the lines can be colour-shaded if you wish them to be. If you want the latest input string (equal to `čv0`), you would enter `""` as string-name (a pair of quotation-marks).

You must ALWAYS remember to include the line-colour, even if you configure a colour-shading separately.

`@:1"{line-segment}{left separator}{right separator}":`

This is where you define how you want the line to look like. Do not forget the surrounding quotation-marks.

`@:2"{line-colour 1}{line-colour 2}{line-colour ...}":`

Here you define the colours to be used for the colour-shading. The colours are centred accordingly with the header, so if you have a five-colour shading defined, the inner-most five colours will be shaded on both sides of the string, and the rest of the header will bear the colour of the last colour. This means that the first colour should be the colour you want closest to the string. Do not forget the surrounding quotation-marks.

12.5.2 Normal @-commands

The command syntax for the @-commands is pretty simple. Just remember to begin and end each command with a :, and that all commands are CASE-SENSITIVE!

```
@:{expression}:
```

The expression can consist of either a single string, or a BASIC-statement built up with tokens, manipulating the information. However, the only thing you can OUTPUT is strings. Therefore, if you have an integer you want to output, you will have to use the token for `str$` on it first.

The expression can also be a comparison. If it is, the result can be recalled later on by the `čb`-command.

Statement	PETSCII-value	Key-combination	Comment
int	181	**[C= + J]**	
abs	182	**[C= + L]**	
rnd	187	**[C= + F]**	
exp	189	**[C= + X]**	
peek	194	**[SHIFT + B]**	Very useful
len	195	**[SHIFT + C]**	
str$	196	**[SHIFT + D]**	Remember this one; you'll use it often!
val	197	**[SHIFT + E]**	
asc	198	**[SHIFT + F]**	Useful
chr$	199	**[SHIFT + G]**	Useful
left$	200	**[SHIFT + H]**	Very useful
right$	201	**[SHIFT + I]**	Very useful
mid$	202	**[SHIFT + J]**	Remember this one, you'll use it often!

Operator	PETSCII-value	Key-combination	Comment
+	170	**[C= + N]**	Add
-	171	**[C= + Q]**	Subtract
*****	172	**[C= + D]**	Multiply
/	173	**[C= + Z]**	Divide
^	174	**[C= + S]**	Exponent
and	175	**[C= + P]**	Boolean operator
or	176	**[C= + A]**	Boolean operator
>	177	**[C= + E]**	Comparison: greater than
=	178	**[C= + R]**	Comparison: Equal to
<	179	**[C= + W]**	Comparison: Less then
not	168	**[C= + č]**	Unary operator

The unary operator `not` is used to reverse the value of an expression. True will become false, and false will become true.[47]

[47] No, this is not written by George Orwell…

13 Hardware

There are several sorts of hardware that can be troublesome. Here is a list of some of the most common problems and, if possible, the way to solve them.

13.1 Hard-disks

The XETEC LT Kernal hard-disks only demand that you setup the proper device# in the configuration file ("XETEC LT Kernal Device#") correctly. You should also turn off NMI-traps in the LT Kernal. To do this, type "config" from BASIC.

Remember not to confuse the concept of Logical Units on the XETEC with the Logical Units in C∗Base. This might cause some headache at first, but after a while you'll get the hang of it.

As DOS-init command in the setup, you would normally just use `i:`. However, if you are using USER-partitions within LU-partitions, then use the format *LDEV*#*LU*#*USR*, as init-command, where *LDEV* is Device#, *LU* is LT-kernel Logical Unit#, and *USR* is User-partition#.

For instance, if the LT-Kernal is device #9, the Logical Unit# is 2 and the User# is 3, then the DOS-init command would be `l923`.

To have the XETEC auto-boot your BBS if there's a power-failure, simply copy the file "AUTOSTART" to your Boot-disk.

The CMD hard-disk is also easy to use. Simply use `cp{x}` as DOS-init command, where *x* is the wanted partition, and *x*`:` as drive#. For instance, `cp42` and `42:`.

To take advantage of the CMD Real-Time Clock, create a file called **"CMD-CLOCK"** according to the information given in the "What Are the Files For"-chapter.

It is **not** a good idea to use sub-directories on your system, and never use `cd` to change directory if you are using sub-directories. Instead use `//{Directory-name}/:` as Drive#. And always keep **"UD- "***x*-files in the ROOT (`//:`).

The ICT hard-disk can be troublesome to get working properly. However, most of it is just a question of getting the DOS-init strings correct. NEVER run the Logical Unit `0:` (The main-system) from the ICT. Use a disk-drive instead. Also store the **"UD-*x*"**-files on LU `0:`.

The ICT works in a very special manner. Instead of operating as a normal hard-disk, it emulates 120 chained C= 1541-drives, which you can link together to create a larger partition. There is also a normal, built in drive that works in the same way a C= 1571 does (Double-sided, with 1328 blocks/disk and 144 files as a maximum).

To chain the drives together, you use the DOS-command `hm4` *x y*, where *x* is the starting drive, and *y* the ending drive in the chain. The chains are only temporary, so the command needs to be issued every time you access the partition (that is, if you leave it in-between).

To access the built in 1571-drive use the DOS-command `h0`.

Again: NEVER run the System-partition (Logical Unit `0:`), Subs or the U/D-directory files from a partition on an ICT HD; this is not reliable and causes the BBS to fail on some actions. Store the U/D-directory files on the System-partition drive as a security measure. A good idea could be to use the built in 1571 for the Subs. That drive does not have the same bugs that exist in the hard-disk file-handling.

13.2 Disk-drives

The normal C= 1541 is very reliable and almost never causes any trouble. The validate-command in the 1541-DOS is a little buggy, and can cause relative files to be damaged. File-copy the disk to another one instead of validating the disk.[48]

The C= 1541-C model is known to be a little quirky, but usually it should work.

The C= 1541-II model is quite reliable — I've never experienced any troubles with mine, but it is said that some versions of it has a different configuration when it comes to drive-electronics, that sometimes does not work properly.

The C= 1570 is known to have several bugs, and I therefore advice against using one. However, if it works for you, that's fine.

The C= 1571 however, is a reliable drive. I've used one for test-purposes without any problems what so ever, both in double-sided mode and in switched single-sided 1541-emulation mode.

To use the double-sided mode, the command `u0>u0` should be issued as DOS init command. This will allow you a disk with 1328 blocks of disk-space, but still only 144 files as a maximum.

You can instead use the drive in emulated 1541-mode and use both sides of the disk. Then you'd get two virtually separate drives, each with 664 blocks of disk-space and 144 files as a maximum. Switching between the different sides is performed with the DOS init command `u0>h0` for side 1 and `u0>h1` for side 2.

However, the disk will be formatted "backwards", which means that you will not be able to read the backside of the disk simply by flipping it over.

[48] Hence, you should never activate the option "Validate System Disk on Write" on an original C= 1541.

The formatting of the disk is performed in the following matter:

`open15,de,15,"u0>m0"`	Open a command-channel and set the drive to 1541 Emulation mode
`print#15,"u0>h0"`	Select head #0 (Frontside of disk/Side #1)
`print#15,"n0:side one,s1"`	Format side #1
`print#15,"u0>h1"`	Select head #1 (Backside of disk/Side #2)
`print#15,"n0:side two,s2"`	Format side #2
`close15`	Close the command-channel

The C= 1581 is a wonderful drive, but older 1581:s have a quite nasty bug. Run the 1581-diagnostics program supplied with this distribution to find out whether your 1581 has got this bug or not. You can also check this by opening the drive and checking if the controller is a WD1772 (which it should be) and if J1 is a 47 Ohm resistor closed circuit (which it should be) or not.

There is also a bug concerning the append-command which can cause problems with "bleeding" if you have a lot of sequential files on your disk. The best way to come to reason with this problem is to buy a Jiffy-DOS ROM from CMD and install it in your drive. That should take care of the problem.

If you cannot afford this (it is cheap, though) or if the problems still persist, then partition your disk into several partitions (one for subs, one for mail and one for the U/D-area) using the procedure in the manual for the 1581, and then use the DOS-init command "/*Partition Name*" to select the proper partition. **Never** create partitions within partitions.

If you still have problems, consider activating the option "Validate System Disk on Write".

As far as any other drives are concerned, I have not had the possibility to try any out. If your having problem, or for that matter, no problems, with a certain brand then please mail me this info so that I can include this information in the next revision of this manual to help others with the same equipment.

If you're having trouble with some drive, try to change the order of the drives in the chain. Generally, 1581's should be first in the chain, then the 1571's, and then 1541-C's, then 1541-II's, then 1541's. If you are using long chains of drives, consider getting shorter cables for them that are shielded.

13.3 Fastloaders

Cartridge fastloaders is something I would like to warn against. Especially the use of an Action Replay in conjunction with the CMD hard-disk, and possibly other drives too. It could easily ruin your partition table.

I have not had any opportunity to try out Speed-DOS or Dolphin DOS, so I cannot say anything regarding those systems.

Jiffy-DOS, from Creative Micro Designs, is a GREAT thing to have inside your computer and your drives. It fixes some bugs in the DOS, makes handling your system easier, speeds up loading/saving etc.

13.4 Ram Expanders

As for the 17*xx* series of REU:s, they are possible to use. However, as everything you store on a RAM-disk using such a device would be destroyed if/when the computer is turned off/loses its power, you'd not be helped very much by it. In earlier versions, this could still be used for things like the applications, but as for now, the REU's are quite useless.

There is, however, the exception from CMD called Ramlink, which can be backed up. I also believe they have some other memory backupable products, but I'm not sure. These devices are great to use, as the loading time is virtually non-existent, the DOS is bug-free and the Ramlink allows parallel connection of the CMD hard-disk.

13.5 Swiftlink/Turbo232

To support the Swiftlink, there are a couple of files, called **"K/SWIFT.D*x*"** included. The *x* should be either **"7"**, **"E"** or **"F"**. You should only have one of these installed on your Boot-disk; the one that corresponds with the interface-page you have chosen the Swiftlink to be operating against. As the Turbo232 is simply an improved Swiftlink, it should work without problems with the old **"K/SWIFT.D*x*"**-files. However, the extended features of the Turbo232 has not been implemented, as of yet. Please inform me if this program does not work with the Turbo232.

13.6 Speed-Ups

Both the Turbo-Master and the SuperCPU are supported in C∗Base. As for the Turbo-Master, there are special NMI-files that you can use to make the BBS run smoother. There are no such files for the SuperCPU as of yet, but there will probably be in the future. Both the BBS and the Toplister uses the SuperCPU when working; the Toplister also recognises if your computer is a C= 128 and activates 2MHz support unless a SuperCPU is connected simultaneously.

13.7 Computers

There should not be any problems with any of the C= 64 or C= 128/C= 128D Models available. I have not been able to test, or even heard of, any BBS running on an SX-64, but I'm pretty sure that would work too. When it comes to the C= 65, I'm not at all sure that it will work, because that computer contains quite a lot of bugs.

13.8 Printers

There is support for most Commodore-compatible printers connected to the serial-port, as Device #4. Having a printer connected printing the **"CALLERS"**-logfile is however nothing to recommend (VERY noisy, eats printer-paper at a fast rate and the risk for paper-jamming is big. The printer can also upset the timing for serial-drives if you use such). However, the support can be good for printing the Userlog offline (from the remote-prompt, for instance). Other files can also be good to have a printed copy of.

Note however, that it is possible to print the log. For instance the sysop of the BBS The Studio, Jerry of TRIAD, prints his Userlog online, and it works just fine for him. Another advantage of printing the **"CALLERS"**-logfile is that no-one can tamper with it to hide that they have hacked your system.

13.9 Miscellaneous Hardware Considerations

The most important thing here is not the computer itself, but rather the power-supply. A VERY good idea is to get the kind of heavy duty power-supply that comes with the C= 17xx Ram Expansion Units. They can save you from many lockups due to an overheated power-supply. Also make sure your computer, the drives and the monitor have "breathing" room, i.e. they should not be cluttered with things; if possible, you should not put the drives on top of each other, especially not if they are 1541, 1541C, 1570 or 1571's, that is, drives with built in power-supply. Drives with separate Power-supplies can be stacked without problems (with the possible exception of interference due to bad shielding).

Make sure you have good power-cables to connect everything with; if you can afford one, use a connector with built in protection against spikes and other hazardous electric phenomena. An UPS is of course something lovely to have, but that's not really within the realm of most 64-owners' financial reach.

Some cartridges (fastloaders, freeze cartridges etc) might work, some might not. I've used my BBS without problems together with an Action Replay V pro running the BBS, but when I tried it with an Action Replay VI pro, it did not work properly (which is strange, as those two are very similar).

Never have any cartridge connected while changing the partition-table or other important settings in the CMD hard-disk; I lost 10(!) partitions this way.

13.10 Unsupported Hardware

- Printers connected to the user-port
- The HART-modem interface
- The enhanced Userport (9600 Baud)
- Split-speed Modems (75/1200 Baud)
- The Flash 8 turbo-card

14 Trouble-Shooting

14.1 Problem with the Software

If you run into something you suspect to be a bug, follow the following checklist:

- If it's a BASIC-error, write down the line# and the error-type (do not get fuzzy about strange line#'s, they should probably be that strange, as the program is compiled).
- If it's **not** a BASIC-error, try to freeze your machine (given you have a freeze-cartridge) and make a memory-dump of the memory-areas 0x0000-0x0400 + 0x9E00-0xE000 and save it to disk. To dump 0x0000-0x0400, you'll have to relocate it somewhere else in memory first.
- Try to make the bug occur again; repeat every action you made just before it occurred, if possible. Consult your log-file to make this easier. If you manage to get a repeatable pattern, please include this in your report.
- Make sure you have the latest versions of all the System-files (cross-reference your **"VDATA"**-file with the version#'s on the official C∗Base homepage).
- Make sure your **"STATS"** and **"CONFIGURE"** are not corrupt.
- If it hung while interpreting an MCI-command, make sure there are no unallowed chars inside the MCI-commands, such as colour-data (with the exception for those commands that demand colour-data, of course), that all parentheses and brackets are correctly paired, every `@`-command begins and ends with a `:`, etc.
- Verify your System-files against the original ones supplied on the Distribution-disk.
- Make sure you have not made any dimensioning error causing the memory to be exhausted.
- Check the length of your prompt-file to make sure it is not too big.
- Make sure no Oneliner is too long.

If you've finished all these steps and the bug still appears, please report it to me, including all information that could be of help to me (what file caused the trouble, what hardware you have, memory-dumps if any, line-numbers for errors/error-codes etc). Do not forget to include a copy of the file **"VDATA"**. Try to be as explicit as you possibly can when you describe the error! If you suspect a file or a prompt to be the problem, include the appropriate file(s).

14.2 Problem with your Hardware

If you realise that your hardware does not work properly with C∗Base, first refer to the Chapter "Hardware". If this chapter does not give you any advice that is useful, please send a detailed report about what seems to be the problem. Specify your system-setup, complete with number of drives, brand of drives, computer, printer, modem etc.

15 Acknowledgements

First of all, I'd like to thank Gunther Birznieks for creating C∗Base, the best BBS program available on the C= 64. I would also like to thank Jerome P. Yoner, who gave the copyright for C∗Base and the Trademarks to me, as he had since long quit his scene activities.

Next, I'd like to thank all the members of TRIAD — current and former, for being the one true constant of the scene and for being my fellow group-mates. I would especially like to thank Taper, who has put up with beta-testing every time I came up with new whims, Iopop for lending me a computer of his when mine broke down, Jerry for sharing his many years of C∗Base-experience, Twoflower for being a bug-tester and active user on Virtual Light and Antidote.

I would also like to thank Rug Rat of Alpha Flight for helping me with early beta-testing, Sledge of Fairlight for using the modified version of C∗Base v3.23 I hacked up for him in about 20 minutes (not that it's bad, but anyway?) and for helping me with his experience, Trasher of Active for supplying me with my first copy of C∗Base, Stormlord/WOW for supplying me with the second, full version (with manuals and everything!), Joyride of Noice for many years of C∗Base experience, beta-testing and taking over Virtual Light when I no longer could keep on running it, Tron/Fairlight for programming the prompt-editor I so frequently used and now abused by bug-fixing to release with this program.

All those who patiently have waited for this version of C∗Base to become finished also deserve my sincere gratitude. You know who you are... Sorry, but quality takes time!

When it comes to idea-exchange and alike, thanks must go to Cyborg, Radar and Moses, the masters of C∗Base of the past, whom I've talked to and discussed the ins and outs of C∗Base with rather extensively; especially Cyborg. Thanks!

For reporting an annoying bug in **"C/SYS_SETUP"**, I would like to thank Robert Todd.

Very special thanks must go to Coolhand of SCS*TRC, who supported me on a personal level. I appreciate that more than you can imagine, Bill!

Special thanks to my brother Erik, for letting me occupy his room with my C= 64, and to my brother Morgan, for reading proof on parts of the manual.

Furthermore I would like to thank all those who called Virtual Light; without callers, no BBS can be successful.

All those working with Driven-Magazine (mainly Elwix of Style) deserve warm thanks as well; Virtual Light served as the Euro-Headquarters for that magazine, and this helped to make my BBS popular.

I would also like to thank everyone in ACC (Academic Computer Club of Umeå University) for being the number 1 user-group.

Finally, I would like to thank all active C= 64-sceners who make this computer what it is, namely the best computer ever.

16 Contact Me

If you have any questions or suggestions about this program, want the source-code, want to report bugs or have anything else interesting to say contact me in one of the ways listed below.

16.1 Snail-Mail

David Weinehall
Västra Varmvattnet 63
SE-922 67 TAVELSJÖ

SWEDEN

16.2 Telephone

+ 46-90-604 10 (Home number)
+ 46-70-633 55 94 (Cellular)

16.3 E-Mail

tao@acc.umu.se
tao@kernel.org

16.4 Home-Page

C∗Base has an official homepage. Here you will find updated files for downloading, information and documentation, bug-reports, forms for you to give feedback or report bugs, version-data and everything else you might need.

http://www.acc.umu.se/∼tao/cbase/

I also have a personal homepage, where you can read some of the poetry and other things I've written, and some information about myself.

http://www.acc.umu.se/∼tao/

16.5 IRC

You can sometimes find me on IRC (irc.acc.umu.se; GimpNet) using the handle **`Tao`** on **`#bastuklubben`**.

16.6 BBS

You can leave me feedback on TRIAD's BBS, but do not expect a rapid answer; I only check in there a couple of times every year.

Antidote

Sysop: Taper

antidote.hopto.org

16.7 GPG Key

If you wish to send me e-mail that contains private information, consider encrypting it using GnuPG[49] Key-information:

Key ID: `DC47CA16`
Fingerprint: `7ACE 0FB0 7A74 F994 9B36 E1D1 D14E 8526 DC47 CA16`

The complete key can be downloaded either from my homepage, or from:

http://wwwkeys.pgp.net

[49] Gnu Privacy Guard.

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B Logical Unit Chart

LD#	Description	Device#	Drive#	DOS init-command
0	System Files			
1	Temporary			
2	Sub Files			
3	Mail Files			
4	U/D 1:			
5	U/D 2:			
6	U/D 3:			
7	U/D 4:			
8	U/D 5:			
9	U/D 6:			
10	U/D 7:			
11	U/D 8:			
12	U/D 9:			
13	U/D 10:			
14	U/D 11:			
15	U/D 12:			
16	U/D 13:			
17	U/D 14:			
18	U/D 15:			
19	U/D 16:			
20	U/D 17:			
21	U/D 18:			
22	U/D 19:			
23	U/D 20:			
24	U/D 21:			
25	U/D 22:			
26	U/D 23:			
27	U/D 24:			
28	U/D 25:			
29	U/D 26:			
30	U/D 27:			
31	U/D 28:			
32	U/D 29:			
33	U/D 30:			

Table 2: Logical Unit Chart

C System Dimensioning Chart

Description	**Configuration**
Values in **"STATS"**	
# of Messages/Packet	
# of Subs (max = 30)	
# of U/D sections (max = 30)	
Sub # to Auto-post uploads in	
Max # of Users	
Max # of Mail-files	

Table 3: System Dimensioning Chart

D Sub-board Chart

Sub#	Sub Name	Groups (Read)	Groups (Write)	# of Posts
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Table 4: Sub-board Chart

E U/D-area Chart

U/D#	U/D Name	Groups (UL)	Groups (DL)	Groups (Unl.)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Table 5: U/D-area Chart

F Configuration Charts

Description	**Configuration**
Values in **"CONFIGURE"**	
Modem-type	
Time to answer phone	
Allow 300 Baud callers	
AT-init string	
Modem on hook during Local-mode	
Sprite Cursor (1-4)	
Callers' Log (Off/To Disk/To Disk and Printer)	
Save Sysop's acts to Callers Log (Yes/No)	
Feedback (To Disk/To Printer)	
LT Kernel Device (0 = Default)	
Sysop in (Yes/No)	
Validate disk on logoff (Yes/No)	
Auto-take Guests to feedback (Yes/No)	
Guests allowed (Yes/No)	
Oneliners activated (Yes/No)	
Abortable Bulletins (Yes/No)	
# of Open-screens (1 = Default, 8 = Max)	
# of End-screens (1 = Default, 8 = Max)	
# of U/D-areas to dimension (30 = Max)	
# of Subs to dimension (30 = Max)	
# of Application Questions to dimension (30 = Max)	
# of Oneliners to dimension (60 = Max)	

Table 6: Configuration Chart 1

Description	**Configuration**
Values in **"CONFIGURE"**	
Phone#-completion (Yes/No)	
Check for posting each call (Yes/No)	
Check for Carrier-dropping (Yes/No)	
24 Hour time format (Yes/No)	
# of Posts before U/D access (Default=0)	
# of Credits/Post	
Max # of Downloads/Call (Default: Unlimited)	
One Mail-file per User (Yes/No)	
Use separate ASCII-screens (Yes/No)	
Values in **"STATS"**	
Disk-status on (Yes/No)	
Device# for System-disk	
Drive# for System-disk	
DOS init-command for System-disk	
Device# for Applications	
Device# for Main-board	
Device# for Protocols	
Logical Unit for U/D-directoryfiles (Default: 0:)	
Multi-Colour BBS system on (Yes/No)	
Colour #1 [F1] Dark (Default: Dark Green)	
Colour #2 [F3] Medium (Default: Cyan)	
Colour #3 [F5] Bright (Default: Light Green)	
Colour #4 [F7] Cursor (Default: Dark Green)	

Table 7: Configuration Chart 2

Property	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Library Access															
Mail Access															
Prime-Time Access															
Module Access															
Sub-Board Access															
Read Callers Log															
BBS List Read/Add															
Back to Back Calls															
300 bps U/D															
1200 bps U/D															
2400+ bps U/D															
OMNI-message write															
MCI command usage															
Bypass Postcheck															
Max Calls/Day															
AM[50]Time Limit															
PM Time Limit															
Credits/Module															
U/D Block Ratio															

Table 8: Access-Group Chart

Note: Options in *italics* are not applicable to C∗Base v3.3, but are included for completeness.

[50]AM = 00:00 - 11:59, PM = 12:00 - 23:59