Metal Message System
(A Heavy BBS)

Preliminary Documentation
April '84

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1. Introduction

1.1. What is it anyway?

Good question! Metal is a Bulletin Board System (BBS) designed to be closely compatible with, and expanding on RBBS, DataTech, OxGate, and any other comparable message system. It allows remote callers to enter and receive messages, news, want-ads, etc. The software is designed to be used with the remote communication program BYE III, running under CP/M 2.2.

1.2. System Requirements:

- 60k or greater CP/M 2.2 system. \((TPA \geq B800h\) bytes)
- 100k disk space and two drives. \((>200k\) STRONGLY recommended)
- Aztec C version 1.05g or higher required to recompile and add functions to the BBS.

The message system consists of the following executable files:

Table 1-1: Metal Executable Files

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENTER.COM</td>
<td>This program requests the user's name and password. It will also login new users if the system is NOT a private system. Once it is done, it executes METAL.</td>
</tr>
<tr>
<td>METAL.COM</td>
<td>The main message system.</td>
</tr>
<tr>
<td>MCONFIG.COM</td>
<td>The configuration program that sets the various system options up permanently.</td>
</tr>
<tr>
<td>MUTIL.COM</td>
<td>The utility program for the sysop, allows you to edit users, purge 'killed' messages, delete users, and a few other functions.</td>
</tr>
</tbody>
</table>

Also included is a file called HELP. This file contains a brief description of METAL commands. If you ordered METAL with source, several other files are included, these are listed and described in a separate chapter on compiling the bbs.

1.3. Public Domain Programs Recommended

The following public domain programs are recommended for remote access. It should be noted, that additional programs will enhance performance of your BBS, but the following are required for it to operate, or equivalents:

BYE III - Remote access program. Used to answer the phone line.

XMODEM - Remote CP/M file transfer utility
Metal Message System - Introduction

SD - Super Directory

ZCPR or CPR85 - Console Command Processor replacement for security
2. Installation

Before attempting to run Metal, you must configure it for your system. A program called MCONFIG is supplied to make this job easier. Once you run this program, go through each item on the menu, changing those options which apply to your system. The following is a description of each of the options.

** NOTE: Typing return to any of the configuration prompts will retain the current value.

2.1. Running Mconfig.com

The first prompt you will see when the program is run, is one asking for a configuration file name. This applies to a file that you might have saved during previous executions of MCONFIG. If you have not saved a configuration file before, simply type the RETURN key.

A menu is then displayed. It will look something like this:

Table 2-1: Configuration Menu

1. Return to Operating System (optionally save configuration file)
2. Edit User Types
3. Private/Public System Setup
4. Files: Names and Locations
5. Maximum Tries user is allowed before being logged out
6. Real Time Clock Setup
7. BYE Parameters
8. ZCPR Setup
9. Location of System (Sign-on Message)
10. Printer log option
11. Five inch drive setup
12. 25th Status Line setup
13. Sysop Name and Password
14. Message base options (Maximum # of msgs, etc.)
15. Save current configuration in configuration file for later use
16. Get previously saved configuration file
17. Permanently save current configuration in METAL, MENTER, MUTIL or MCONFIG

Each menu item is described in detail on the following pages. Once completing MCONFIG, you may setup the system files as you choose (see next chapter on system files). Following is a sample of where you might wish to place the files.
Table 2-2: Placement of System Files

<table>
<thead>
<tr>
<th>Location</th>
<th>File(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: User 0</td>
<td>METAL.COM must be here! BULLETIN, CPMINFO, HELP, NEWUSER, SYSTEM. INF, WELCOME</td>
</tr>
<tr>
<td>A: User 1-13</td>
<td>Usually contain files available for down-loading.</td>
</tr>
<tr>
<td>A: User 14</td>
<td>MENTER.COM, MCONFIG.COM, MUTIL.COM, CALLERS, COMMENTS, COUNTERS, LASTCALR, MESSAGES, SUMMARY, NOTES. IND, FEATURE.IND and USERS.</td>
</tr>
<tr>
<td>A: User 15</td>
<td>Usually reserved for private up-loads to SYSOP. This requires enabling the private up-load option in XMODEM. Only the SYSOP should be given access to user areas 14 and 15. He/she may keep any 'nasty' (spelled dangerous) COM files up there. This holds true for all drives!</td>
</tr>
</tbody>
</table>

The sysop must then be the first user who logs onto the system (run MENTER and enter your name). Please see the chapter explaining special sysop features and commands for a more complete description of this process.

2.2. Menu Item 1 - Return to Operating System

Use this option when you are finished configuring the system, or wish to abort and return to CP/M. The program will prompt you with:

"Save current configuration?"

If you reply YES to this prompt, you will then be asked for a configuration filename where it can place the current configuration. If you hit return, you will be re-prompted. If you DON'T reply YES, or hit return, you will immediately drop to CP/M.

** It is strongly advised to save a configuration file for later use. It will save time when you only need to change one value, or have several different set-ups for different uses.

** If by accident you fail to save your configuration, or typed this menu command by accident, you may still continue from where you left off if you have not run another program yet:

If you are using ZCPM and the GO command is enabled, simply type GO to continue.

If you are not using ZCPM, OR the secure mode flag has been set to secure, use the following commands: SAVE 0 GO.COM then type GO. You may erase the GO.COM file later if you like.
2.3. Menu Item 2 - Edit User Types

There are 8 separate user types, 5 of which have predetermined parameters. The user types are as follows:

<table>
<thead>
<tr>
<th>Type</th>
<th>Access Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSOP</td>
<td>is allowed COMPLETE control over the system.</td>
</tr>
<tr>
<td>SPECIAL</td>
<td>is someone who can be trusted to help you do away with certain messages that might be left by 'twits' before you mark the person as a twit. He also has access to higher user areas on the system.</td>
</tr>
<tr>
<td>NORMAL</td>
<td>is the person who first logs on, and you don't know too well. They can leave messages and get to CP/M, but have no 'special' privileges. You might decide to disallow entering messages and CP/M access until he leaves comments with a name, phone #, address or whatever other security tests you might like to give. They may still leave private comments to the sysop when exiting the system.</td>
</tr>
<tr>
<td>NOCPM</td>
<td>is the same as a NORMAL user, except they can't get to CP/M.</td>
</tr>
<tr>
<td>TWIT</td>
<td>is someone who has proven to be just that, and will not be allowed to get onto the system under their previously entered name (or 'handle'). This should only be given to users who, after repeated warnings, do not 'shape up'. You be the judge of how one would become a TWIT.</td>
</tr>
<tr>
<td>USERA-USERC</td>
<td>sysop, or levels of special users, or whatever else you like.</td>
</tr>
</tbody>
</table>
This table illustrates the default set-ups for user types:

<table>
<thead>
<tr>
<th>char</th>
<th>name</th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
<th>#4</th>
<th>#5</th>
<th>#6</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>SYSOP</td>
<td>15</td>
<td>30</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>s</td>
<td>SPECIAL</td>
<td>12</td>
<td>15</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>n</td>
<td>NORMAL</td>
<td>10</td>
<td>5</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>x</td>
<td>NOCPM</td>
<td>0</td>
<td>5</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>X</td>
<td>TWIT</td>
<td>0</td>
<td>0</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>a</td>
<td>USERA</td>
<td>... &lt;defined by you!&gt; [these are optional]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>USERB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>USERC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following options correspond to those in the above table:

Option #1 (b) Maximum CP/M user area available to the user (a 0 (zero) indicates NO CP/M ACCESS)

Option #2 (b) Timeout (in minutes) before getting kicked off after no activity (a 0 (zero) indicates that the user is to be logged out immediately

Option #3 The ability to kill messages not addressed to him/her

Option #4 (z) If the user has special ZCPR privileges (era, ren, save, etc. controlled with the WHEEL byte in ZCPR)

Option #5 The ability to read private messages that aren't addressed to them

Option #6 The ability to enter a message

(b) = BYE III or greater required to make this work
(z) = ZCPR setup for a SECURE system required for this to work

Each user type will be displayed, and you will be asked whether you would like to change the user parameters. If you DON'T answer YES, the next user will be displayed, and you will be prompted for a change again. Otherwise, each parameter will be asked for (remember, a RETURN alone will NOT alter the current setting for that item). A default user may be selected as well. This user type is the type you wish all new callers to default to. Merely select any one of the above user types as your default user. Example: if you wish for new callers to not have cpm privileges you would select the NOCPM type user as your default user by entering a lower case "x".

2.4. Menu Item 3 - Private / Public System Setup

A private system may be setup. This type of system will not allow users to automatically be added if their name is not found in the users file. An 8 character password will be required by everyone that wishes access.
You will be asked if you would like the system to be private, and if so, also be asked for an access password.

The default is a NON-PRIVATE system.

2.5. Menu Item 4 - Files, Names and Locations

Several files are used by the message system. These files are either created by the sysop, or automatically by Metal. A complete list of these files appears in chapter 3. This menu item allows you to change the file names, the CP/M user area, and the drive the file is stored on. You will be shown the current settings of each file and be asked for a new filename, user area and drive. If you don't wish to change them, simply hit the return key.

All files initially are setup for drive A:, and user area 14.

2.6. Menu Item 5 - Maximum Tries Before Logout

This value is simply how many chances a person gets when trying to logon to the system. If they use all of their chances, they get logged off. This is primarily of interest to PRIVATE systems, but can be used for either. The default is 5 attempts.

2.7. Menu Item 6 - Real Time Clock Setup

Current options available:

- NO CLOCK - no real time clock available
- COMPUPRO - Compupro system support I real time clock avail.
- HAYES - Hayes Stack Chronograph via a serial port. You will also have to enter a port address, and status mask.

If you don't have any of the above set this one to NO CLOCK. If you have the Compupro SS1, or Hayes Stack Chronograph it will ask for the data and the command port addresses. The port defaults are 5BH for data, and 5AH for command. The default is NO CLOCK.

2.8. Menu Item 7 - Bye Parameters

The BYE program may be setup to ask for the number of nulls*, and if your terminal can display lower case characters. If you decide to have BYE do either of these, you must tell METAL and MENTER that this is the case, or it will reset them after the person logs on. You are prompted for you BYE settings. The defaults are that BYE does NOT ask for NULLS, or CASE.

* NULLS are characters sent after a Return character is sent. This is used primarily for the older (and slower) printing terminals that required time for the print head to return to the first column on a line. A NULL character has a value of 00h.
2.9. Menu Item 8 - Zcpr Setup

If you are using ZCPR (public domain Console command processor replacement), METAL will make sure that the secure mode, WHEEL, is reset when people enter CP/M. The sysop will be given complete control in CP/M by SETTING the WHEEL byte. If you use ZCPR, BE SURE that the WHEEL location is setup correctly. Defaults are to use ZCPR, and WHEEL at 003EH.

2.10. Menu Item 9 - Location of System (Sign-on Message)

This is a short (80 character maximum) text string which will be displayed as your system identification, when somebody logs onto your system. Any standard displayable characters may be used in this identifier. (The string 'Zilch!!' is one exception, and MUST NOT BE in the string)

2.11. Menu Item 10 - Printer Log Option

If you would like the Callers Log, and comments sent to your list device (LST:) then modify this option. Normally a callers file, and comments file are generated instead of output going to the printer.

*** REMEMBER TO LEAVE YOUR PRINTER ON IF YOU USE THIS OPTION ***

2.12. Menu Item 11 - Five Inch Drive Setup

This is a rather obscure option that was dreamed up after noticing the slow speeds at which some 5" drives re-select. Generally, after a drive is selected, it has a 5 second (or so) timer set. After that timer expires, the drive de-selects. The time required to re-select the drive is often noticeable when you are reading messages at 300 baud. If your controller is memory mapped, and the timer can be reset using a simple 'peek', then you should change the location of this option to that of your drive timer reset location. This will keep the drive motors spinning while printing lengthy messages, users log, or anything else that the timer might timeout on.

2.13. Menu Item 12 - 25th Status Line Setup

If you have a 25th status line on your system, you may display the current user in it. You must know the following:

Your console DATA OUTPUT port.

Your console OUTPUT STATUS port.

The bit-mask that checks for OUTPUT READY (the mask gets ANDED with what is read from the output status port, and if it's NOT 0, then a character is sent to the terminal).

The character sequence to move cursor to the 25th line.

The character sequence to return the cursor to continue from its prior location.
This option is very handy if your hardware supports it, since you will always know who is calling you to chat or who is screwing around on the system, without having to ask them.

2.14. **Menu Item 13 - Sysop Name and Password**

As system operator, you have a special 'built-in' password, just in case someone gets to the users file and finds out your other password. This is strictly a backup security measure. You MUST set the SYSOP name to your name (or 'handle'), then set a new password, of up to 8 characters, that is different from your USERS file password. Your name will be automatically capitalized if it is entered in all lower case.

2.15. **Menu Item 14 - Message Base Options Setup**

Several limits are placed on the number of active messages, the number of combined active and deleted messages, line length, and maximum number of lines allowed in a message. You will be told the current defaults of each variable, and allowed to change them.

Defaults:

Maximum active messages is 200 (value must be <=2000).

* This limits the number of message that are 'active' on the system (active=haven't been deleted). Usually the value is a safety measure to avoid filling up the disk entirely.

Each message will take approximately 384+<chars in msg text> bytes of disk storage. Additionally a block of memory is allocated which is equal to 8*<max active msgs> bytes.

Maximum COMBINED active and deleted messages is 800 (value must be <=3000 AND greater than the maximum active messages) * This limits the total active and deleted messages allowed. This is a better method to limit disk storage problems, since it includes ALL messages that are currently on disk in its value. The primary purpose of this is to allow MUTIL to purge messages, and not run out of memory in doing it.

Maximum length of a message line is 80 (must be <=128)

Maximum number of lines a message may contain is 100 (must be<=250)

* This limits how many lines you may have in each message.
Metal Message System - Installation

2.16. **Menu Item 15 - Save Current Configuration in Configuration File**

You may save the changes you have made to the default configuration anytime. This allows you to continue where you left off, or to keep several different configurations on hand for different purposes. You will be prompted for a filename, and where it is located (user/drive), it will default to the last drive and user area accessed if none are given. To restore the file at a later date, use the recall configuration file command (see next page).

2.17. **Menu Item 16 - Recall Configuration File**

If you have run MCONFIG before, and saved the configuration in a file (either thru a menu option, or when exiting to CP/M) you may recall that configuration with this command. You will be asked for the user area and drive you wish to get the file from (defaults are the last used drive/user).

2.18. **Menu Item 17 - Make Configuration Permanent**

An area is set aside in METAL, MENTER, UTIL and MCONFIG containing only options. This area is the same in all four files. MCONFIG is used to setup the appropriate configuration. You may then save the configuration in a file that can be loaded by MCONFIG later. To make any of the changed options permanent, you must save the new configuration in METAL and MENTER. Since the format of the options area is the same for all files, the trick is finding WHERE the area is in each file. This is accomplished via a search for the obscure string 'Zilch!!!'. This string must NOT be added elsewhere in the program, or you may end up wiping out METAL or MENTER.

This menu item saves the configuration in one of the Metal COM files. You will be prompted for the CP/M User Area and Drive which the file resides on. If no file type is given, it is assumed to be .COM.

** Once the programs METAL and MENTER (see next menu item) have been configured, run MENTER and login under your name. The SYSOP must be the first person to login to the message system.

** Note - THIS COMMAND MUST BE USED TO COMPLETE TO SETUP PROCESS. NONE OF THE CONFIGURATION CHANGES YOU MAKE WILL BE PUT INTO OPERA-
TION UNTIL THE APPROPRIATE FILES (USUALLY JUST MENTER AND METAL) HAVE BEEN 'PERMANENTLY' SETUP WITH THIS COMMAND **

2-8
3. Various Files Used by the Message System

Several files are created and used by the system. None of them are REQUIRED to be setup in advance, however, there are several files that you may want to create, or edit to your liking.

3.1. File Names and Descriptions

An * in this column indicates a file that is created by you. All others are created by the message system.

<table>
<thead>
<tr>
<th>Filename</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BULLETIN</td>
<td>This file is displayed when the user logs onto the system. Usually bulletins concerning the system, are found in this file, however, it may contain any login message you choose. This file may be created with a standard text editor.</td>
</tr>
<tr>
<td>CALLERS</td>
<td>This file contains the Callers log of the system if you do not send the log to the printer.</td>
</tr>
<tr>
<td>COMMENTS</td>
<td>This file contains comments left by Users when leaving the system, or jumping to CP/M, if the file is not routed to the printer.</td>
</tr>
<tr>
<td>COUNTERS</td>
<td>This file is created by the message system automatically. It contains the next system message number, the number of active messages, the number of previous calls, and if you do not have a compatible clock board, the date will be kept here for convenient updating.</td>
</tr>
<tr>
<td>CPMINFO</td>
<td>This file is displayed when you enter CP/M. Usually it contains a few CP/M hints and system dependent notes.</td>
</tr>
<tr>
<td>FEATURE.IND</td>
<td>This is an index file for featured articles (displayed with either the 'features' or 'articles' command). The file has the following format:</td>
</tr>
<tr>
<td></td>
<td>chars 1-12 : filename</td>
</tr>
<tr>
<td></td>
<td>chars 14-15 : user area file is stored in</td>
</tr>
<tr>
<td></td>
<td>chars 16 : drive file is found on</td>
</tr>
<tr>
<td></td>
<td>chars 18-end of line : file description which is printed in menu.</td>
</tr>
</tbody>
</table>
Each line must be at least 19 characters long. The file may be created with any standard text editor. There is a maximum of 20 files in the index file. Please see the chapter on Sysop features for an example.

Note: you may now add comments in this file by merely starting each line with a ";" which is to be a comment.

HELP

This is the system command help file. It is displayed in response to the HELP (or ?) command. You may alter it to suit your tastes.

LASTCALR

The LASTCALR file contains information about the current, or last logged in caller. It includes the name, time and date of login, and a pointer to further information contained in the USERS file. MENTER creates this file when somebody first enters the system and METAL reads the file thereafter.

MESSAGES

This is the message file itself. It contains all the system messages. It contains a message header and message text for each message entered. The message text itself is stored in text editor-like format, with each line ending in a Carriage Return/Linefeed sequence. The message header always starts on a 128 byte record boundary, thus up to 127 bytes of disk storage may be wasted in one message. This is not a large problem however, since typically no more than 64 bytes are not used. Most other message systems make similar trade-offs, such as allocating 64 characters for every line, regardless of how long it actually is.

Note, when someone 'kills' a message, the message REMAINS in this file until you use UTIL to purge these messages.

See SUMMARY file for information on the format of the message header.

NEWUSER

This file is shown to the user the FIRST time he logs onto the system. You can put anything you like into it. As before, this is a standard text file.
NOTES.IND

This is the index file for the 'notes' command. Its contents are like the FEATURE.IND file in every way. See description of FEATURE.IND for more info.

SUMMARY

This is a message summary file. It contains one record per message, which contains a message header that is identical to the message header used in the message file.

The format of the message header is as follows:

<table>
<thead>
<tr>
<th>Bytes</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/1</td>
<td>- Contain the message number. If the message is killed, this number is 0.</td>
</tr>
<tr>
<td>2/3</td>
<td>- Contains the CP/M record of the message header in the message file.</td>
</tr>
<tr>
<td>4/5</td>
<td>- Contain the messages' 'parent' if this is a reply to a message. If this is not a reply to another message then this is 0.</td>
</tr>
<tr>
<td>6/7</td>
<td>- Message number of the first reply to this message. 0 if there are none.</td>
</tr>
<tr>
<td>8/43</td>
<td>- This is the receiver of the message. Both first and last names together with a space in between them.</td>
</tr>
<tr>
<td>44/57</td>
<td>- This is the first name of who sent the message.</td>
</tr>
<tr>
<td>58/77</td>
<td>- This is the last name of the person who sent the message.</td>
</tr>
<tr>
<td>78</td>
<td>- This is a message status character. It will be 'n' for a normal message, 'p' for a private message, and 'x' for a killed message.</td>
</tr>
</tbody>
</table>
79/80 - Number of lines in the message.
81/88 - Date the message was entered.
89/96 - Time message was entered.
97/127 - Message topic.

* note: 16 bit numbers are stored in standard low byte/high byte sequence.

A text file containing anything you would like displayed to someone who unsuccessfully tried to gain access to your system. This file is only used in a PRIVATE system.

This is the users file, it contains users names, locations, passwords, and parameters. Each user takes one CP/M record. The format is as follows:

<table>
<thead>
<tr>
<th>Bytes</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/1</td>
<td>User number.</td>
</tr>
<tr>
<td>2/16</td>
<td>Users first name.</td>
</tr>
<tr>
<td>17/37</td>
<td>Users last name.</td>
</tr>
<tr>
<td>38/46</td>
<td>Users password.</td>
</tr>
<tr>
<td>47/55</td>
<td>Date last logged on.</td>
</tr>
<tr>
<td>56/64</td>
<td>Time last logged on.</td>
</tr>
<tr>
<td>65/93</td>
<td>City user is calling from.</td>
</tr>
<tr>
<td>94/95</td>
<td>Last read message (high msg at last logon)</td>
</tr>
<tr>
<td>96</td>
<td>User status: + = sysop, s = Special, n = normal, x = no cp/m, X = twit, a, b, c = user defined types.</td>
</tr>
<tr>
<td>97</td>
<td>Upper/lower case flag '1' = upper and lower.</td>
</tr>
<tr>
<td>98</td>
<td>Auto jump to CP/M instead of BBS. '1' = go to the bbs.</td>
</tr>
<tr>
<td>99</td>
<td>Expert user? '1' = yes.</td>
</tr>
<tr>
<td>100</td>
<td>Bell on? '1' = yes.</td>
</tr>
</tbody>
</table>

3-4
101 - Auto msg read at logon? '1'=yep.
102 - Video backspace. '1'=yes. (to be phased out)
103 - Number of nulls.
104 - Terminal height. 0=no pause.
105/127 - For expansion later.

note: 16 bit numbers are stored in standard low byte/high byte sequence.

* WELCOME

This file is displayed by BYE when entering the system. The message system may also print this at the users request. It can be any system introductory text.
4. Maintenance

A special SYSOP's utility program called MUTIL is included in the message system package. Its purpose is to allow the sysop to add users, edit users, delete users, display/print the users file and to purged messages.

The only maintenance which is NECESSARY on your part, is the purging of old messages (those which have been 'killed'). This should be done a few times a month, or as it is required by your system, since old messages still take up space on the disk until you have done so. Please refer to the 'M' command below. Your message base must NEVER exceed 800* TOTAL active AND 'killed' messages; the MUTIL program will not be able to purge the messages if this limit is exceeded.

* This is the default, it may be changed with mconfig (Message-base options).

4.1. Maintenance Commands

The following is a list of allowed commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Add a user. This is most commonly used in a private system to allow certain people to gain access to the system. In a public system, this function exactly like MENTER does in adding a new user.</td>
</tr>
<tr>
<td>D;&lt;user&gt;</td>
<td>Delete user. This removes a user from the users file. It does this by setting the user number to 0. Subsequent new users will obtain the old user number and position in the users file of the deleted user. For example: If you deleted user #43, the next NEW user would become user #43 and be in the same position in the file.</td>
</tr>
<tr>
<td>E;&lt;user&gt;</td>
<td>Edit user. You may change a user's name, city, password and status using this command. You will be shown the user's name, if you would like to change it, just enter the new name, otherwise hit return. The same goes for the city and password. When you get to the user status, you must enter a valid status/type character (or return if you aren't changing it). A list of valid characters is shown on a table in the section on installation (menu item 1). You will then receive a prompt asking if all of the information is correct. If you say yes, then it will save the users new information. If you answer NO, you will be asked if you would like to abort editing this user.</td>
</tr>
</tbody>
</table>

4-1
Message purge. This command is the most important, and frequently used command in MUTIL. It used to free up disk space currently being occupied by 'killed' messages. When people kill a message, only a few pointers and flags are changed within the message and summary files indicating that the message is no longer active. The message STILL USES up file space in the message/summary files. This command should be done fairly frequently, depending on how many messages are killed. In general, a weekly clean-up of old messages is sufficient.

The purge operation takes place in two steps. The first builds a table of all messages in memory. The second copies active messages (those not killed) into a new message and summary file. When a Message #0 is indicated as being processed, it is referring to a killed message.

*** THE TOTAL NUMBER OF BOTH ACTIVE AND KILLED (but non-purged) MESSAGES MUST NOT EXCEED 800*: THIS IS MUTIL'S MESSAGE BUFFER LIMIT. PREVIOUSLY PURGED (via this command) MESSAGES ARE NOT INCLUDED IN THIS LIMIT ***

* This default may be changed using MCONFIG (message-base options).

*** YOU MUST HAVE ENOUGH SPACE ON THE DISK FOR TWO COPIES OF BOTH THE 'MESSAGES' AND 'SUMMARY' FILES FOR THIS COMMAND TO WORK. A BACKUP OF BOTH THESE FILES IS CREATED DURING THE MESSAGE PURGE, SO THAT IF YOU DO NOT HAVE THE SPACE ON THE DISK, YOU WILL NOT LOOSE THE MESSAGES. THE BACKUP FILES ARE CALLED 'MESSAGES.BAK' AND 'SUMMARY.BAK'. THESE SHOULD BE RENAMED BACK TO 'MESSAGES' and 'SUMMARY' IN CASE OF SUCH A FAILURE. ***

P;<string> Searches for and prints to the system LST: device, the user specified. If no user is specified, it will print the entire USERS file. If a user number is given, it will start printing users from that number. If and alphabetic string is entered, then it will search for and print any users who have that string in their name OR city/state. A control-k (or simply a 'K') may be used to abort the listing.

S;<string> This performs exactly as 'P' above, except output is ONLY to the screen, NOT the LST: device.

X exit to CP/M. This is the 'quit' command for when you are finished using MUTIL.

/user> is EITHER the user's FULL name, OR user number.
<string> is any text string EXCLUDING semicolons (';').
5. Special Features and Commands for Sysops

You, as sysop, are a different class of user. This enables you to certain extra commands and features. Articles and notes may also be setup by you.

The following is a mixed list of features, differences, and options you have.

5.1. Sysop name, password, and login.

There is a 'built-in' sysop name and password (setup via MCONFIG) which should match your user-id. You must be the first user to login to the system, giving you user #1. You will be prompted for a sysop password when you either use your full name or enter a 1 (one) as the user number.

Note: You may not use the standard '1<user-pass>' format of entering the system, you must INSTEAD use the format '1;<sysop-pass>;<user-pass>' (the <sysop-pass> refers to the built-in sysop password, and the <user-pass> refers to the password in the users file). Once you login for the first time, issue the '!' command (see below), and save your options with the 'User' command so that the system knows you are indeed a sysop.

5.2. ! (exclamation mark) command.

This command may be used by anyone, but should be known only to the sysop. It toggles the sysop flag, enabling and disabling sysop status. This is helpful when you have a trusted user online and would like to get to CP/M when you haven't given him/her access to CP/M yet. It comes in handy other places too, you will come across them on your own. Note: you must issue this command yourself the first time you logon, and save the status with the 'User' command. This prevents the off chance that you forget to login as the first user, and someone else gets sysop access to the system (era, save, ren, etc.. commands in CP/M).

You are prompted with the cryptic message 'Prove it!', in which you reply with the built-in sysop password. Input is NOT echoed to the screen, so it is reasonably safe to use this command with company.

With the sysop status on, the following commands change slightly, or are added. (Assuming DEFAULT sysop privileges are in effect)

The 'list' command (list users file) will display the persons password in addition to the normal output of the command. So, BE CAREFUL in using this command with others nearby.

All messages are readable. Respect peoples privacy, and try to limit 'snooping'. This is a changeable sysop option, see the section on configuration.
The ZCPR Wheel byte is set to NON-SECURE (allowing era, ren, etc commands in CP/M assuming you are using ZCPR/CPR85 with secure mode setup). This too is an option which can be changed, see the section on configuration.

You are given access to user areas 0 through 15. See configuration section if you wish to change this.

You may delete any message. See configuration section to disable this (you shouldn't, REALLY!).

'+' command is added enabling you to read the comments file. You will be asked after reading it, whether you would like to purge (erase) the file. Note: this command will not work if the printer log option is in use.

The 'callers' and 'Z' (list callers to the system commands) ask you if you would like to purge the callers file once you have read it.

5.3. Files you may setup

As described in the chapter on files used by the system, you may customize several files which the user is shown using various commands, and automatically in some cases. All are standard files of text which are simply displayed to the user (BULLETINS, WELCOME, etc.) except for the two files NOTE.IND and FEATURE.IND which deserve further explanation.

These files are indexes to other files which are displayed in the same manner as BULLETINS, and the other text files. The format of the index files are as follows (repeat of description in chapter on files):

chars 1-12 : filename
chars 14-15 : user area file is stored in
char 17 : drive file is found on
chars 19-<end of line> : file description which is printed in menu.

Each line must be at least 19 characters long. The file may be created with any standard text editor. You may make comments in the file by preceding a comment line with a ":" and using no more than one line per comment (ie: ; at the beginning of each comment line).
Metal Message System - Special Features and Commands for Sysops

The following example index file would allow the bulletins, cpminfo, an advertisement for Metal, and an article on Satellites to be displayed using the 'articles' or 'features' command. The format is the same for the 'notes' command.

FILENAME: FEATURE.IND

|D|
|U| r|
|s| i|
|e| v|
\ Filename \ |r| |e| / File description
\ 1-12 \ \ | / 19-<end of line>

Column: V........V VV V V.................................(etc)

Text: BULLETIN 14 A The latest bulletins.
CPMINFO 14 A Information on using CP/M on this system.
METAL.AD 00 A Metal advertisement.
SATTELITE.DOC 02 B Interesting news on satellites+computers ; this is a comment....we have no more files!

It's that simple.

There are a maximum of 20 files in each index file, this should be plenty.
6. Re-Compiling the Message System

(This is for those who have purchased the source code for the BBS)

You should have received the following source files:

CPM.H - The CP/M file i/o header file.
CPMIO.C - Source for the CP/M file and terminal handlers (these are general routines, and can be used without the message system).
HMCONFIG.H - The configuration header file. This is the file that contains the current configuration of the message system in SOURCE format.
HMH.H - Global variable definitions, and #DEFINES.
HMLIB.C - Several 'common' routines used by all 4 of the main programs (METAL, MENTER, MCONFIG, MUTIL).
MCONFIG.C - Main source for MCONFIG.
MENTER.C - Main source for MENTER.
METAL.C - Main source for METAL. (MS.C is also part of the main message system)
MS.C - The message handling part of METAL.
MUTIL.C - Main source for MUTIL.

Also included are the following submit, and library files.

COMP.SUB - Submit file to compile any of the C source files. (Format: SUBMIT COMP file ** do NOT include .C **) 
LM8.SUB - Submit file to link 8080 version METAL.
LE8.SUB - Submit file to link 8080 version MENTER.
LU8.SUB - Submit file to link 8080 version MUTIL.
LC8.SUB - Submit file to link 8080 version of MCONFIG. (Format for above 4 .SUB files: SUBMIT L*8)
MASTER.SUB - This submit file compiles and links all four message system files.
Metal Message System - Re-Compiling the Message System

METALIB8.LIB - Aztec C relocatable library with other common library routines which have already been compiled. (8080 VERSION)

To compile the WHOLE message system, simply SUBMIT MASTER. Make sure that there is at least 100k free on the disk you are compiling the system on, before attempting this. All of the .C files and METALIB8 must be on the current drive. If you are using ZCPR, the compiler (CII), the linker (LN) and the assembler (AS) may be on either A: or the current drive, otherwise they too must be on the current drive.

When you are compiling a single C file, all of the above holds true, except that the linker and METALIB8.LIB need not be present.

When you are linking one of the main files (METAL, MENTER, MUTIL or MCONFIG), the linker, METALIB8.LIB and all of the required relocatable files (.O files created from previous compilations) must be present.

** The previous page contains a list of submit files, and their function **

Examples:

B>submit master ; this compiles and links everything
B>submit comp hmlib ; compiles hmlib.c (NOTE: NO .C ext.)
B>submit lm8 ; link metal

The following table indicates which files are required for each SUBMIT file.
1. Modification notes

The clock routine is the most likely candidate for a change. There are so many various clock/calendar set-ups, that it very difficult to support all of them. Currently only the Compupro System Support 1 clock is included (soon, the Hayes clock, and a few others will be added). To add code for your real time clock, you must change one function. The basic clock routine (readclock()) simply returns the time and date (formatted hh:mm:ss and mm-dd-yy respectively) in the global character variables time[] and date[]. You must first act as though you are using the compupro clock, or others, this involves initiating the variable O_RTC to COMPUPRO in the file HMCONFG.H. Alternately you may use MCONFIG to change the clock setting to COMPUPRO, or other clock. You must then replace the readclock() routine with one to read your clock.

Consult the source listing for subroutines available for use.
Table 6-1: Required Files for Submit Operations

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**the above 4 also require ln.com**

MASTER

metal.c  menter.c  mutil.c  mconfig.c  
ms.c  hmlib.c  cpmio.c  metalib8.lib  cii.com  
as.com  ln.com
7. Introduction

METAL MESSAGE SYSTEM is a Remote Bulletin Board System (BBS for short). It is used to send messages between users, and between system operators (Sysop for short) and users. This is sometimes referred to as "electronic mail". Heavy Metal has several features which set it apart from many of the public domain, and sold message systems. In this manual we will describe these features, and show the user how to use the system. The operator should refer to the installation and operation documentation for operating procedures with regards to handling and care of the system.

In this manual we use the convention of underlining and bold faced text to indicate operator entry. For example:

COMMAND ( or type ? for help ) : ?

would be illustrative of a prompt from the computer, and your answer "?". We shall point out any places where this does not apply.

Since no two computers operate the same way, it is impossible to give you aid in how to run your computer, and how to get to the METAL MESSAGE SYSTEM program, but we shall assume a standard implementation where:

1. The system is remote and using "BYE".

2. The system uses standard CP/M commands.

3. The user has already logged into the system (you must know how your modem software works to do this) and is entering the message system for the first time.

Your modem software on your computer is an un-known quantity in our equation, and as such we cannot support or illustrate how that works. We have seen just about every program available either through commercial means or through public domain work with the system, and all of them have adequate documentation on how to dial up and log in. As such, refer to the documentation on your program for insight as to how to log in.

With these items in mind, we hope you will find the documentation easy to read, and well done. You should have no problems with any of the commands, and a sample session is provided. Thanks for purchasing and using our product. We wish you and yours the very best BBS usage available!
8. METAL MESSAGE SYSTEM BBS General Usage Commands

8.1. The "B" command
(also BULLETINS)

This command will re-display the systems bulletin file. The bulletin file generally is used to give new information about system operation or down time or such like. If you missed the bulletins, merely type a "B" at the command prompt.

8.2. The "C" or "J" command
(also "CPM" and "JUMP" commands)

To go to CP/M with extensive help shown before entering. When entered, the "C" command will transfer the user into the CP/M operating system operating remotely. There are exceptions to this operation:

1. You do not have CP/M access (determined by Sysop).
2. Your system does not have this feature.

Since not all sysop's will want this feature, you should check with your system operator on whether the CP/M feature is available, what is there, and how to use it.

The "CPM" and "C" commands will ask the user if they would like to leave private comments to the sysop, whereas the "JUMP" and "J" commands will not.

Novice users are shown the CPMINFO file before entering CP/M, expert users are not.

8.3. The "G" command
(also "GOODBYE" and "BYE" commands)

Log off and dis-connect your modem while in the system through Metal BBS. The "G" and "GOODBYE" commands will ask the user if they would like to leave private comments to the sysop, whereas the "BYE" command will not.

8.4. The "H" command
(also "?" or "HELP" commands)

This command will give you a short display containing brief descriptions of all the commands available to METAL MESSAGE SYSTEM. This file is maintained by the System Operator, since he may have modified the program to add (or subtract) features.

When in doubt about a command, merely type "H" or "?" or "HELP" to get assistance.

8-1
8.5. The "L" command
(also "LIST" command)

This command will inquire about a user of the system and will provide the last log in date, and City and State called from.

8.6. The "O" command
(also "OTHERSYS" command)

This command will show a list of other systems which you may dial into, or any information which the system operator chooses to put into a file accessed by this command. The output of this command is determined by the contents of the OTHERSYS file on the system operators area.

8.7. The "U" command
(also "USER" command)

This command will allow you the user to change your password, or User parameters. After typing this command you will receive a display showing which parameters you may change, (like number of nulls, upper or lower case etc.) and then wait for you to input the number of the selection you wish to make.

You then answer the questions on the selection and your user log will be updated to reflect the changes.

8.8. The "W" command
(also "WELCOME" command)

This will display the system log in information, also known as the WELCOME file. This file is designed by Sysop, and contents may vary.

8.9. The "X" command
(also "EXPERT" command)

When familiar with the command set the user may elect to set his/her prompting displays to the expert mode. Typing the "X" command will perform this operation. Expert mode gives little or no help, but does speed up displays considerably.

8.10. The "Y" command
(also "YELL" and "CHAT" commands)

This command will allow the user to call the system operator when typed in. When you type "Y" or "CHAT" the terminal will begin beeping (for app. 30 seconds if no sysop there) to alert the sysop that you need to talk with him. If the system operator is available, he will come on-line, and you enter a send and receive line editor which allows you to "talk" back and forth.
8.11. The "Z" command
(also "CALLERS" command)

If implemented, this command will list today's callers to the system.

8.12. The "#" command

When entered, this command will show your current status on system and all counters.

8.13. The "//" command

This command may be used to enter the send and receive editor without doing the alert beeps found in the "Y" command (see above). Useful for sysop to pass you info directly if he happens to see you on the system.
9. Metal Message System Message Entry and Retrieval Commands

These commands are used to enter and retrieve messages from the system message base.

9.1. The "E" Command
(also "ENTER" command)

Enter a new message into the message data base (prompted). Using this command, you may enter a message to anyone who is currently on the users listing. You can also enter messages to all users, and to Sysop. Entering the message is accomplished in the following manner:

at the command prompt enter E.

The system will ask who the message is to. You respond with...

1. A carriage return if for all users, or...

2. the exact first and last name of the person you want the message to go to. If you do not get the name exactly, the message will still be in the data base, but the user you are sending it to will not be alerted that a message exists for him/her.

The system will now ask if the message is normal, or private to which you respond...

1. an "N" for normal, which means anyone may see the contents of the message, or...

2. a "P" for private, which allows only the person you are sending it to, and sysop to see the message. Note: Sysop gets to see all messages!!

Now, the system will ask for a line of message followed by a carriage return...Enter lines until your message is composed, and enter a blank line (carriage return only) to end message entry...you may then...

1. abort the message with an A command
2. save the message with an S command
3. edit a line of the message with an E command
4. delete a line of the message with a D command
5. insert a line of a message with a I command
6. list the message with the L command
7. continue entering the message with the C command

The system will allow you to use any of the 5 commands over and over (with the exception of abort and save of course), until the message looks the way you want it to..
9.2. The "K" Command
(also "KILL" command)

Typing this command will allow you to Kill a message. Your entry of
the "K" command will be greeted by the response ...

Message to Kill ( xxx to xxx ) ?

to which you reply a message number which lies within the ranges shown
by the x's in the example. If this is a valid message, the system
will then respond with....

Message # xxx entered on xx/xx/xx by First Last
About : Subject of message...
Delete this message?

To which your reply would be "Y" for yes and "N" for no.

9.3. The "Q" command
(also "QUICKSUMM" command)

This command will show a quick listing (by subject) of current
messages. The latest revision will allow the user to choose a search
mask for searching for a particular item. These include the
following:

1. T: to search the TO field for the message recipient
2. F: to search the FROM field for the message sender
3. S: to search the SUBJECT field
4. D: to search the DATE field
5. *: to search all of the above fields

You may search in any combination of the above fields with one
command. For example: TF:JOE BLOW would search for a message from
or to Joe Blow.

The command is self prompting and uses a literal string search.

9.4. The "R" command
(also "READ")

This command will allow you to retrieve any message which is not
private in the data base. Merely type the "R" command and give the
next prompt a message number to retrieve. The message selected will
then be displayed. If the message is to you, you will be prompted for
whether or not you would like to make a reply to the message, and you
may then enter your reply in the manner described in the "E" command
above, without having to enter the "E" command. This command also
makes use of the search facilities outlined in the "Q" command above.

In order to read several messages in a row, enter the message number
to read followed by a "+" to read forward, or a "-" to read backwards.
9.5. The "REPLY" Command

Use "REPLY" to enter a reply to an existing message. Reply will function exactly as the "E" command above, but without prompting for the "TO:" portion. Respond for message privacy (either n or p) and enter the message as per the "E" command.

9.6. The "RP" command

Typing "RP" when first logging into the BBS will allow you to see all the messages which are not private, and have been entered since your last call on the system. The retrieval will be in chrono-logical order, and you will be prompted for each message beforehand. This is the handy way to check up on system mail without searching for new messages!

9.7. The "RS" command

Very similar to the RP command, the RS command will allow you to read messages which are not private, in chrono-logical order, starting at any number, with prompting as to whether to read the message, or bypass it. This command will also use the search commands explained in the Q command above to find a specific message or group of messages to retrieve. This search is self prompting.

9.8. The "S" Command
(also "SUMMARY" command)

Show a listing of the current messages with a listing of their author, the date entered, the time entered, and the subject matter. A more elaborate version of the "Q" command mentioned above, but handier for finding a given message from one person to another. The Scan command may be used with search parameters exactly as shown in the Q command above. These parameters are self prompted when the S command is called.
10. **Message System Control Codes**

Message system control codes may be typed at any time and perform many different functions. Control codes are typed by pressing down the Control key and then typing the appropriate letter to perform the task indicated.

10.1. **Control S or S**
Suspend output for viewing, any key to restart scrolling.

10.2. **Control K or K**
Cease current command and return to command mode.

10.3. **Control O or O**
Skip to next message when reading multiple messages.
11. Notes to Users

Commands may be separated by a space or a semicolon to have more than one command on one line.

Example: R;234

would retrieve message 234.

Example: K 112

would kill message number 112

Example: S;123;K;224;E;john smith;new stuff;P

would do a full scan beginning at message 123, then kill message 224, and then enter a message to John Smith about new stuff in the private mode.
12. A Sample Session Using Metal

The following is a sample session using the Metal BBS. User entry is shown **Bold faced and underlined**.

You would use your modem and software to log into your remote system, and the remote system will either chain the METAL MESSAGE SYSTEM bbs...where you would see a display like the one we present here, or follow the instructions given to you by your System operator to get into the Metal BBS and it would look like you see it here once inside...

(Ok, here is Metal's Log On Message...)

METAL Enter Version 1.0b

Sillycon Gulch (415) 965-4097

(Now, the Bulletin file will be displayed)

Extra Special Hot Flash Deluxe Bulletins....

If you don't read these you will be in deep Kim-Chee (Korean Horse Radish).

The Message file and Users file have been purged ......

   drivel...drivel...

   ( Now let's get you logged in! )

What's your name (or user ID)? **joe**

What's your last name? **blow**

   ( Now the system will go look for you )

[Checking for previous logon]

   ( Found you so...Identify by password )

   TRON

Enter password? 1234 --- NOTE the system displays this even though you typed the above.

   ( You are ok...so.. the system will log you on )

[Updating logs]
[Loading message system]

Metal Message System...(A Heavy BBS)

   version 1.0b

   ( Here is you user Info for this session...)

12-1
You are caller 2042 (User #80).
High message is 754.
There are 102 active messages.
Last message read was 753.

( Now the system looks for messages addressed to you ... )

[Checking for msgs]

( You don't have any in this case, so...)
Sorry, no mail.

( Ok...Let's go do something!!!...)

(? or HELP for help) Command: g

Enter the message number of the first message you wish to start scanning at.

You will be given a list of msgs from that number to the last message.

Msg # to start at (452-753) ?700 ( start with 700 )

702 03-07 [R/641] From: DAVID MCCORD To: JOHN HUDSON : (19) dBASEII/SSM
703 03-07 [R/573] From: DAVID MCCORD To: JOHN HUDSON : (8) Morrow Disk
709 03-07 From: BYRON MCKAY To: DAVE AUSTIN : (6) CPM
720 03-07 [R/700] From: BYRON MCKAY To: SDS988 SCHICK : (4) PASSWORD
722 03-07 From: HOWARD SMITH To: ALL USERS : (5) 8085A-2
724 03-07 [R/692] From: ANDREW HART To: CHRIS SAMUELSON : (3) EAGLE, ET
726 03-07 From: TAMARAX CO. To: ALL USERS : (16) Sale-
High Quality Dis
734 03-08 From: BYRON MCKAY To: ERIC BEAR : (6) privileges
736 03-08 From: ROB MAGES To: BYRON MCKAY : (1) DDT, SID,
AND SAVE
738 03-08 From: IRV HOFF To: DUANE AUSTIN : (7) M7LIB
740 03-08 From: IRV HOFF To: DEE POURCIAU : (24) MDM727
745 03-08 From: DAVE RUTHERFORD To: BY : (4) U-Know-What
747 03-09 From: KEN MOBERT To: ALL USERS : (20) This
system & Mine
748 03-09 From: PHIL WIGHT To: ALL USERS : (19) MDM727
749 03-09 From: LAWRENCE FINCH To: ALL USERS : (5) DISK
FORMATS
750 03-09 [R/740] From: TED SILVEIRA To: DEE POURCIAU : (12) MDM727
[End Msgs]

( let's get the short version ... )
(7 or HELP for help) Command: Q

Enter the Message number of the first message you wish to start scanning at. You will be given a list of msgs from that number to the last message.

Msg # to start at (452-753) ?700 (again 700 starting pt.)

702 dBASEII/SSM VB3
703 Morrow Disk Jockey
709 CPM
720 PASSWORD
722 8085A-2
724 EAGLE, ETC.
726 Sale-High Quality Diskette
734 privileges
736 DDT, SID, AND SAVE
738 M7LIB
740 MDM727
745 U-Know-What
747 This system & Mine
748 MDM727
749 DISK FORMATS
750 MDM727

[End Msgs]

( So, let's retrieve a message ... )

(7 or HELP for help) Command: r;750

(Here we used the ; to separate the command and the message number to save time ... very handy )

Msg #750 posted 03-09-84 at 09:46 am by TED SILVEIRA
To: DEE POURCIAU About: MDM727 (12 lines)

[Reply to msg #740]

(the reply to msg... means the message we are reading is a reply to message #740 entered through the reply command )

Dee--Hello, again, and excuse me for butting in, but . . .
if your Freedom 100 function keys are anything like those on my Televideo 925, you have an even bigger problem. My TVI 925 also sends "A plus an alphabetic character when I hit a function key. Unfortunately, it also puts a <CR> at the end of the sequence automatically, so I get something like "*AA<CR> whether I want the carriage return or not. This has kept me from using the function keys with MDM727 and with QWIKKEY, because neither is ready to accept the lead-in character plus TWO other characters (one alphabetic and one <CR>)--they only want to see ONE. If you ever solve this problem, I'd appreciate hearing about it.

Ted Silveira
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Message # (452-753)? <CR>
( we don't want another so end it with a return

( Well, how about getting some help with the ? command ?)

( ? or HELP for help) Command: ?

*** METAL MESSAGE SYSTEM BBS Help ***

*** General Commands ***

"B" = Display system login bulletins (important info).
"C" or "CPM" = To go to CP/M with extensive help shown before entering.
"G" or "BYE" = Log off from the system through Metal BBS (comments req.).
"H" or "?" = Repeat the display of this message (get help).
"I" or "LIST" = Inquire about a user of this system (last log in date etc).
"O" = Show a list of other systems near this Metal BBS.
"U" = Change your password, or User parameters.
"W" = Re-Display the system Log - in welcome message.
"X" = Select the expert mode (short prompts) of operation.
"Y" or "CHAT" = Call for the System Operator (6:00 p.m. to 10:00 p.m.).
"Z" = List today's callers to the system.
"#" = Show your current status on system and all counters.
"//" = Enter chat mode with no beeping.

*** Message System Commands ***

"E" = Enter a new message into the message data base (prompted).
"K" = Kill a message to you (only) in the data base.
"R" = Retrieve a specific message by number (repeating).
"REPLY" = Reply to a message in the data base (fills in 'to' portion).
"RP" = Read new messages since last log in in order with prompting.
"RS" = Read any messages in order with prompting.
"S" = Show a listing of messages with author and date info.

*** Message System Control Codes ***

Control S or S = Suspend output for viewing, any key to restart scrolling.
Control K or K = Cease current command and return to command mode.

Commands may be separated by a space or a semicolon to have more than one command on one line. Example: R;234 would retrieve message 234.

(? or HELP for help) Command: list

( Let's look for a person in the user mail list )

Enter search string, RETURN for ALL, or user number to start listing at? meyer

( We look for the last name Meyer )
( Found it !! )
64 BILL MEYER from Aptos, CA
Msg at last logon 734. Last on 03-08-84

(? or HELP for help) Command: list

( In this case we aren't so sure what to look for, so we get all users )

Enter search string, RETURN for ALL, or user number to start listing at? <CR>

1 BYRON MCKAY from Sysop Picenet RCP/M Mt. View
Msg at last logon 730. Last on 03-08-84

2 TIM GARY from Los Altos, Ca.
Msg at last logon 745. Last on 03-08-84

3 READ ROBERTS from San Francisco
Msg at last logon 579. Last on 02-27-84

4 KIRK DE HAAN from SAN JOSE, CA.
Msg at last logon 613. Last on 02-28-84

5 DAVID FLORY from TEANECK, NJ
Msg at last logon 509. Last on 02-21-84

6 JOHN MESSINA from SAN JOSE CA
Msg at last logon 505. Last on 02-21-84

[more].

( Alrighty...let's enter a message to Mr. Meyer )

(Type command E to enter)

(? or HELP for help) Command: e
Message # will be 755
Who to (RETURN for all) ?bill meyer
   ( Here we send to Bill Meyer)
About ?new goodies...
   ( What's it all about Alfie?? )
(Private/Normal) ?p
   ( With utmost secrecy!)
   ( Now we actually enter a line at a time hitting a <CR> at the end of each line )
Enter text following each line number.
To edit or end, hit RETURN alone on a line.
Up to 80 chars on a line, and 100 lines
1: Bill,
2: Here are the new goodies I told you about.
  Byron
4: <CR>
   (We hit a final <CR> at the last line to end it.)
   (now list it...)

(A)abort, (C)continue, (D)elite, (E)dit,
(I)insert, (L)ist, (S)ave :: Select ?L

1 Bill,
2 Here are the new goodies I told you about.
  Byron
   (don't like line 3 so delete it...)

(A)abort, (C)continue, (D)elite, (E)dit,
(I)insert, (L)ist, (S)ave :: Select ?d
Delete what line ?3
   ( Ok, now edit line 2 a little....)

(A)abort, (C)continue, (D)elite, (E)dit,
(I)insert, (L)ist, (S)ave :: Select ?e
Edit which line? 2

Line Was:
2: Here are the new goodies I told you about.

Enter new line, or Return if no change:
2: There are the new goodies I told you I would get.
   ( and list it again...)
(A)abort, (C)continue, (D)elite, (E)dit,
(I)insert, (L)ist, (S)ave :: Select ?L

1 Bill,
2 There are the new goodies I told you I would get.
   (now continue starting at line 3)
(A)abort, (C)continue, (D)elite, (E)dit,
Metal Message System - USERS DOCUMENTATION

(I)ntert, (L)ist, (S)ave :: Select ?G
3: I will call you later.
4: Byron
5: (List it one more time...)
(A)bort, (C)ontinue, (D)elte, (E)dit,
(I)ntert, (L)ist, (S)ave :: Select ?1

1 Bill,
2 There are the new goodies I told you I would get.
3 I will call you later.
4 Byron
(Last but not least...Save IT!!)
(A)bort, (C)ontinue, (D)elte, (E)dit,
(I)ntert, (L)ist, (S)ave :: Select ?g

[Saving]
(Let's test to see if your message is in...)
(?) or HELP for help) Command: s;750

750 03-09 [R/740] From: TED SILVEIRA To: DEE POURCIAU : (12) MDM727
755 03-09 From: JOE BLOW To: BILL MEYER <Priv> : (4) new goodies...
[End Msgs]

(Yup...thar she blows!)
( So, let's kill it since it was only a test message...)

(?) or HELP for help) Command: k
Kill what msg (452-755)? 755

Msg #755 Entered 03-09-84
From JOE BLOW
To BILL MEYER <Priv>
About: new goodies... (4)
Confirm? Y

[Deleting]

(let's try to get to CP/M...)

(?) or HELP for help) Command: j
You don't have access to CP/M.

( This system does not let me, or does not have the ability...)

( Well, I'm bored with it all, so I'm gone....)

(?) or HELP for help) Command: g
Wish to leave comments (y/n/r/?) ?Y

Enter comments.
** RETURN alone to end **
Wait for the prompt after each line.
->Hello sysop...glad to be able to use the system!

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