

The Opus CBCS System Manager
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Introduction

Oman stands for the <O>pus system <MAN>ager and is the system maintenance utility that is distributed as part of the Opus Computer Based Conversation System (CBCS). It is intended to be used by Opus system operators to inspect and/or maintain all major components of the Opus CBCS operating environment such as the:

- o User database
- o System area definitions
- o Outbound mail area
- o Log File
- o User menus
- o Event schedule
- o Global data items
- o Caller Status Information

Oman started out life as OOPS (Opus Outbound and Parcel Sniffer) for Opus v1.00; developed into OOPS series II (Opus Outbound and Parametric Supervisor) for Opus 1.01; matured into OMAN (Opus Manager) for Opus v1.03; and graduated into OMAN (Opus System Manager) for Opus 1.10+. As of Opus v1.10, it became part of the official Opus distribution kit, replacing several maintenance functions that were either built into Opus or existed as separate utilities.

To operate, Oman needs to know many things about your Opus CBCS system and computer configuration. As such, Oman takes its operational information from a combination of the Opus parameter file (eg, Opus.Prm), its own optional configuration file (eg, Oman.Cfg), command line switches, and/or the DOS environment variable, "OMAN=".

For compatibility across a wide range of platforms, Oman has several video output modes available such as via DOS, FOSSIL, BIOS, or direct video buffer manipulation (RAM). In addition, Oman can also be run remotely via FOSSIL controlled modem access. When operated remotely, it can be optionally set to request a password for added security and has carrier detect logic that will immediately terminate the program when the carrier is lost.

Packing List

The official Oman utility consists of the following files. Any further distribution of this kit must include all of these files, as is, without modifications of any kind.

- README.1ST Brief unpacking instructions.
- OMAN.PRN Documentation (Printer format w/form feeds)
- SAMPLE.CFG Sample configuration file.

OMAN.EXE

Main program

Requirements

MEMORY

Approximately 355k, depending on the functions used.

DISK SPACE

Less than 500k is required. No other major operational requirements. Just enough to hold the component files of this package with a little safety margin.

OPERATING SYSTEM

Although this product makes use of the extended path specifications that were first supported by MSDOS 2.0, the supporting libraries used to create it assume MSDOS 3.0 or higher. MSDOS 3.0 or higher is recommended.

OPERATOR

In order to maximize your use and enjoyment of Oman, you should be suitably attired in jeans and a large, soft, cotton T-shirt. Oman is liable to act unpredictably when in the presence of those whose bodies are unduly punished by tight collars, ties, or jackets. If you can't roll around in it, take it off.

KEYBOARD

Local mode:

When running in local (non-remote) mode, the program accepts standard ASCII, WordStar Ctrl-Codes, or IBM PC key codes.

Remote mode:

When running in remote mode (via modem), the program accepts ASCII or IBM PC key codes (if they can be sent). A limited translation of ANSI or VT-100 cursor keys is employed at the menu prompts for HOME, END, LEFT, and RIGHT keys for moving through records.

FOSSIL INTERFACE PROGRAMS

For remote operation or when using consoles that are not fully compatible with the IBM PC, a "FOSSIL" interface is required (Version 5 or greater) to make use of the "FOSSIL" or remote options. X00 by Ray Gwinn and OpusComm by Bob Hartman are examples of compatible FOSSIL interfaces. Please note that the Oman option of "Video: FOSSIL" does **not** refer to the recently introduced VIDEO FOSSIL interface but only to the use of a regular FOSSIL for output.

Requirements (cont)

CARE and FEEDING

Oman has no special nutritional requirements but likes to be operated in airy, indirectly lit, open areas with the New Age album of your choice playing in the background.

FILE FORMATS

Oman works with all Opus v1.13 data files such as USER.DAT, SYSTEMxx.DAT, SCHED.DAT, etc. The outbound area files are more generic and Oman's outbound manager can work with outbound areas that conform to the model used by Opus, BinkleyTerm, Ommm, et al.

REMOTE MODE

When running in remote mode (via modem), the program requires a FOSSIL interface, Version 5 or greater.

VIDEO SYSTEM

Character Set

The program primarily uses the IBM Extended ASCII character set as implemented on the IBM PC but makes minimal use of its text graphics codes (128-255).

For those systems that have trouble displaying IBM text graphics, you can optionally request that all IBM Extended Graphics be translated into their nearest ASCII equivalents. See the section on the configuration file for details.

IBM Char Translation

Now translates some of the Greek letters of the IBM character into their Romantic equivalents. Eg, Greek Beta -> 'b'. Previously, only an asterisk was shown.

Outbound Display Format

The outbound display format setting, as set by the OHMFMT CFG command is now displayed on the Parameters Screen.

Video Monitor

The screen presentations in both local and remote modes utilizes 24 lines of 80 columns each and can be presented in either monochrome or color.

Video Interface - Hardware

Any controller that is compatible with the text modes of the IBM MDA or IBM CGA video controllers or any later models that are downward compatible such as the EGA and VGA. controllers. Since bit mapped graphics are not used, graphic modes are not an issue.

Requirements (cont)

Video Interface - Software

The program has different software support requirements based upon its selected video mode. It defaults to using very standard DOS supervisor calls (slowest but safest) but can be set to use IBM-BIOS (faster), FOSSIL (most generic), or Direct Ram Write (very fastest) video routines. The following table lists the requirements for each mode.

Video Mode	Requirements
IBM	IBM PC/XT/AT compatible BIOS
DOS	MSDOS 2.1 or higher with ANSI.SYS
FOSSIL	FOSSIL driver (Version 5 or superset)
RAM	IBM CGA or MDA video buffercompatibility

C o n f i g u r a t i o n

Oman's operational parameters are taken from up to four different sources which can all work together in an increasing order of precedence (as listed below):

- o Opus parameter file (eg, Opus.Prm)

Oman can take nearly all of its operational control information from your active Opus.Prm file. Oman only needs to know what its name is by entering it on the command line. For example, the command, "OMAN Opus", will cause Oman to use the information from "Opus.Prm".

- o Oman configuration file (eg, Oman.Cfg)

You can use an optional Oman configuration file, "Oman.Cfg", to set additional operational data as well as to override any of the item values it would otherwise use from the Opus parameter file given on the command line.

- o Oman Environment Variable "OMAN="

You can set a DOS environment variable, "OMAN=", which can specify the same values as those that can be entered on the command line (see command line, next).

- o DOS command line

You usually just specify the name of the Opus parameter file on the DOS command line when you run Oman but you can also set certain parameters such as the video mode.

Actually, the scanning order is a little more complex to allow for a wide range of control variations. The exact order in which these configuration sources are scanned is as follows:

1. Environment string "OMAN=" only for -C or -N parameters.
2. DOS Command line only for any -C parameter.
3. Default Configuration File (or as given by -Cpath).
4. Environment string "OMAN=" (all settings EXCEPT -C, -N)
5. DOS Command line (all settings EXCEPT -C or -N)

As these sources are scanned in the above order, an option set in one overrides any like option set at a previous level.

Please note that, although the -N switch looks like a command line switch, it is only meant to be used in the environment string and turns off command line scanning. This is the primary reason for environment string being scanned before the command line. That is, by setting the -N switch in the environment string, the command line will not be scanned.

Configuration (cont)

This feature is needed in some cases where a host program might unconditionally pass some command line parameters which are not compatible with Oman. However, as of Oman v1.13, there is no conflict between the parameters passed by Opus and those used by Oman. Oman will sense that it is being spawned from Opus and will interpret the passed Opus command line correctly.

Configuration File

The configuration file, "OMAN.CFG", is optional and, if used, must be placed in the same directory in which Oman is located unless its path is explicitly defined on the command line or in the OMAN environment variable. See the Appendices for a complete description of the configuration file, its syntax, and the acceptable commands.

Here are some sample configuration files:

The following configuration is for 100% compatible IBM PC or compatible and enables direct video RAM screen write for maximum video response. It also disables the use of color. Although the program automatically matches the color mode indicated by the BIOS flags they do not always reflect the desired mode. With this setup, the program can be run without any arguments.

```
;
; Standard local PC configuration
;
PARAM C:\OPUS      ; Use "C:\Opus.Prm"
COLOR Off          ; Forces monochrome
VIDEO Ibm          ; Video uses IBM BIOS
;
```

The following configuration autostarts the Outbound Manager whenever it runs and is for a machine whose BIOS does not match IBM's so the FOSSIL interface is requested for video operation. With this setup, the program can be run without any arguments.

```
;
; Autorun Outbound, Use FOSSIL video
;
PARAM C:\OPUS      ; Use "C:\Opus.Prm"
EXEC Outbound      ; Run OutBound Manager
VIDEO Fossil       ; Video uses FOSSIL calls
;
```


Configuration (cont)

The following configuration sets up a forced remote operation at 2400 baud using the COM1: port and enables password control for the password "ABC".

Since programs other than Opus might add command line arguments that are incompatible with Opus and Oman, the "CMD off" is used to suppress the scanning of the command line, avoiding incorrect or ambiguous reactions to it.

Please note: the manual setting of the baud rate and communications port is not normally necessary when running Oman as a child of Opus because Opus will add the necessary command line switches. Instead, this example might be used in special cases where Oman needs to be run remotely outside of an Opus scenario.

Also note: the "VIDEO Fossil" command is actually redundant since the "Port" command will force the use of the FOSSIL interface.

```
;
; Example OMAN configuration file (remote)
;
PARM C:\OPUS      ; Use "C:\Opus.Prm"
EXEC Outbound    ; Jump to NED
VIDEO fossil     ; Use FOSSIL
PORT 1           ; Use COM1:
SPEED 2400       ; Run at 2400 baud
REMPWD ABC       ; Ask/Verify password "ABC"
;
```

Other, Opus related environments?

It is quite possible that OMAN can be used for related Opus environments such as Binkley, SeaDog, and Dutchie with judicious use of the configuration parameters. In such cases, though, Opus specific functions such as the user file, area, and menu managers would not be applicable.

If running Oman as a child from a BBS, host, or a netmail program that stuffs the command line with arguments different than those of Opus or which do not use an Opus.Prm file, you will need to use the "CMDLINE OFF" configuration command to suppress OMAN' processing of the command line. Likewise, you probably should NOT have an "OMAN=" environment string set as that is simply an alternative to command-line style processing.

In such non-standard environments, please keep in mind that the data files you would be accessing must be compatible with Opus 1.13. Eg, NodeList.Dat, not NodeList.Sys, and so on.

Configuration (cont)

DOS Environment

You can alter Oman's basic configuration using the DOS environment variable called "OMAN=" using exactly the same format and command set as for the command line. See the section on "Command Line Switches", for details on the available options.

For example, to run with the Opus parameter file OPUS.PRM, an alternate configuration file "C:\OMAN2.CFG", with color forced OFF, and autostarting the Outbound Manager, you could place the following command in your AUTOEXEC.BAT file or execute it directly from DOS at some time prior to running the program:

```
SET OMAN=OPUS -CC:\OMAN2.CFG -L0 -XO
```

Then you need only run the DOS command "OMAN" to have all those options in effect. Note, however, that anything you might then enter on the command line will override the above settings.

Command Line Switches

The option switches found on the command line (or as stored in the environment string "OMAN=") are scanned and processed after the configuration file has been processed, thus acting as overrides to any settings made in it. For a complete listing of all command line switches, please refer to Appendix I.

Example command switch usage:

```
Oman ..... Take all settings from Oman.Cfg
OMAN MyOpus ..... Take all settings from MyOpus.Prm
OMAN MyOpus -l0 ..... Force video to Black and White
OMAN MyOpus -vr ..... Use Video RAM (fast write) mode.
OMAN MyOpus -l1 -vr ..... Video RAM and force Color
OMAN -l1 -vr -yb1 ..... Color, RAM, Watch for Ring on COM1:
```


Operation

Starting the Program

The program is started by running it as a DOS command with any desired option switches following on the command line. In most simple cases, the default values that your existing Opus parameter file will be all that are needed for the program to operate so you'd just specify the name of the Opus parameter file. Eg, if Oman was located in your Opus root directory and your Opus parameter file was called "MyOpus.Prm", then you would only need to enter "OMAN MyOpus".

However, to make use of faster video, to force the use of color or monochrome modes, or to set other features, you'll most likely want to setup the configuration file, OMAN.CFG. You can use command line switches for many of those things but a configuration file is more complete and saves key-strokes. Since it can also specify the name of your Opus parameter file, you can reduce the command to run Oman to just "Oman" without anything else.

Additional startup automation is provided by use of the OMAN= environment variable which be set in your AUTOEXEC.BAT and can contain any command switches you might otherwise enter on the command line. In most cases, though, you'll be better off setting up all major things in the configuration file and use option switches on the command line for temporary overrides.

After the program analyses and sets up its configuration, it clears the screen and presents you with its "parameter screen" which displays all major paths, settings, and options for you review or just skip by pressing <ENTER>. If you started the program using the autostart option to jump directly into a particular function, the parameter screen is bypassed, bringing you straight to the main menu.

When executed in remote mode, it automatically enables carrier detect sensing and will instantly terminate upon loss of carrier to return to the parent program. Remote mode is typically only used when it is spawned as a 'child' of Opus or some other telecomm program.

If modem ring monitoring is enabled with the RingMode BEEP or EXIT options, the speaker will beep when an incoming call is detected to alert you of that fact. If RingMode EXIT is enabled and the function you are in supports it, then OMAN will also immediately exit to DOS so Opus (or any other telecomm software) can answer the call. See the Appendix on Ring Watching for more information.

If you start up in macro playback mode "-[m]", then OMAN will immediately begin taking key-strokes from that given macro file as if you had entered them manually until there are no more; at which point, manual keyboard entry resumes. See the appendix on MACROS for more information on macros.

Operation (cont)

Main Menu

When the program is run without any autostart option, it displays a status screen with its operating parameters. Pressing {Enter} will bring you to the main menu which has the following options:

P)arameters Screen	Return to opening parameter screen
O)utbound Manager	Manages the outbound mail area
N)odelist Manager	Nodelist Display and Editor
U)ser Manager	Manages the user file
A)rea Manager	Manages the area definitions
E)vent Manager	Event Schedule Manager
G)lobal Data Mgr	Manages global data (eg: call count)
L)og Surveyor	Pre-scans, displays, searches log file
M)enu Manager	Manages the Opus Menu File(s)
C)aller Status	Displays multiline activity, real-time.
Q)uit	Return to DOS (or parent program).

From this menu, you request the other program functions and return to it when you exit from them.

The Quit option exits the program and will return to DOS if the program was from the DOS command line or the host program if it was run as a "child" from it.

Operation (cont)

Text field editing

The program has a fairly complete input text field editor. Whenever you enter or edit a text field, this editor takes over. Much like the DOS-EDIT or other command line editors, it gives you the following line editing controls:

Action	Ctl-Keys	Keypad
Move left 1 char pos	^S	[Left]
Move right 1 char pos	^D	[Right]
Move to field start	^X	[Home]
Move to field end	^E	[End]
Move left 1 word	^A	^[Left]
Move right 1 word	^F	^[Right]
Delete curr char	^G	[Del]
Delete left char	^H	[BS]
Delete to end	^Y	^[Home]
Delete to home	^U	^[End]
End input/edit	^M	[Return]
Cancel Input (Clear field)	^[	[Escape]

Major Functions

This section contains brief notes on each of the major functions within Oman. Since most functions are screen oriented and relatively easy to use, detailed operational explanations have been left out of this section. You should use Oman's built-in On-line Help System which is available on nearly all function menus via the help command (?). It offers specific, context sensitive help on each function.

Outbound Manager

SUMMARY:

This function starts up by scanning the outbound mail area, storing in memory information about the items found, sorts them into address order, and displays them in a visually coordinated fashion similar to a spread-sheet program.

FEATURES:

- Supports OMMM and Binkley style zoned directories
- Lists outbound area in Lotus-like format
- Lists the files within Attached file lists (FLO's).
- Lists empty, zero-length ARCmail entries.
- Lists incomplete Zmodem transfer file markers.
- Lists From/To/Subj of messages in unarc'd packets.
- Readdresses pending outbound mail objects
- Changes bundle priority (Hold, Direct, Normal, Crash)
- Deletes bundles, file lists, ArcMail, and others.
- Creates POLLS using Null FidoNet Packets ("Bundles")
- Creates File Requests (with matching POLL object)
- Creates File Attaches (directly creates .?LO file)
- Built-in DOS directory command
- Merges bundles when needed due to address changes.
- Merges file lists when needed due to address changes.
- Deletes null archives, "no call" and Zmodem markers.
- Runs DOS command from outbound menu.
- Full Screen File Request and Send editor.

The tabular display shows several selectable levels of detail:

- Mail bundles, archives, file lists and bad call markers.
- Archived mail bundles and file attach list contents.
- Spent mail archives of zero length

All objects are sequentially numbered for the ease of subsequent activities which one might group as:

- Readdressing
- Priority changing
- House keeping

- Inspection
- File Request and File Sends

Major Functions (cont)

NOTES:

The Outbound Manager's options are fairly self-explanatory and a help key is available that invokes the Oman On-line Help system. Please use it for more details on specific functions and fields.

In addition to modifying the characteristics of existing objects, you can create proper, zero-length, POLL packets, WaZoo (.REQ) File Requests, or File Send lists (.FLO).

You can change the mail priority or routing of objects with the commands of Norm, Crash, Hold, Direct, and Leave commands. For example, if your bundler program is set to HOLD all mail to a particular address but you wish to allow one particular message bundle to go out right away, you could set that one bundle to NORMAL or CRASH so it can go out right away.

Including 'Other' Files in the Display

The outbound manager can optionally display a number of 'other' file types that are not strictly mailable objects. There are several of these 'other' types that can be included. When you first enter the outbound manager, some of them are already set to be shown and are listed in the "Misc(F)iles:" area on the top line of the menu area. You can change these defaults by using the "OHMfmt" configuration file statement or, while in the outbound manager, you can toggle them on and off using the "F" command.

Zoned Operation

When multiple, zone-specific outbound directories are used as with zoned operation of the BinkleyTerm and Ommm mail packing programs, then the directory for the default zone is the one that is first scanned and displayed. After that, the Z)one command can be used to switch between zones.

Any changes to the zone segment of an object's address will "toss" the object into zone-specific directory for that zone. If the no directory has been created for the object, then a rename error will be reported and the address change will fail, safely.

Please note that, up to its 1.13 version, Opus does not directly support zoned directories. A little batch and parameter file trickery can be used to emulate zoned outbound mail operations by running several netmail events, one for each zone that you support. But, in most cases, zoned operation is best left to full-fledged mailing facilities like BinkleyTerm.

Entering Addresses

When readdressing a mail object, you can enter any or all of a netmail address' components. Only those that are given will be changed while those that are not will default to corresponding part of the original address. For example:

3: Change zone to 3 (tosses object)

Major Functions (cont)

/111 Change node to 111
123/ Change district to 123
2:/12 Change zone to 2, node to 12 (tosses object)

Major Functions (cont)

Nodelist Editor

SUMMARY:

The Nodelist Editor, allows the Sysop to directly edit the actual Nodelist Data and Index files. Like the User and Area Managers, it displays one record (Node) per screen. You can edit, search, jump to, insert, or delete nodes in the current, compiled nodelist data.

FEATURES:

The EDIT function changes the current record's:

- | | |
|----------------------|----------------------|
| o System Name | o User & Call cost |
| o System Password | o Hub node |
| o Miscellaneous Info | o All user bit flags |
| o Telephone number | o Modem type & speed |

The INSERT and DELETE functions are handy for those times in between official nodelist updates when you wish to add a new node or remove one that has left the net. Note, this does not change the original nodelist.### file but DOES directly modify the working files.

The LIST mode, lists for each node, one per line, ...

- | | |
|--|-------------------------|
| o Nodelist position | o Miscellaneous Info |
| o Network address | o Telephone number |
| o System Name | o Continuous mail flag. |
| o Zone, Region, Host, Hub nodes are high-lighted | |

NOTES:

It is important to note that all work is done on the compiled nodelist file and its index. Should anything go wrong or you find yourself edited into a corner, you can simply recompile your original, distribution nodelist.

Please remember that the prime use of Nodelist Editor is to make TEMPORARY updates to your nodelist while waiting for subsequent updates of the distributed nodelist. More elaborate updating is not recommended since the next nodelist compilation will erase what you've done.

Due to the size of the current nodelist, the nodelist data file is now in excess of 800k. For this reason, as well as for speed, all INSERTS and DELETES of nodes are done IN PLACE in the live nodelist without virtue of a back up.

When INSERTING a new node, all records above the insert point are shifted up by one, the new one is added where it belongs and the index is rewritten. When DELETING a node, all records are shifted down to the deletion point, the be deleted is overwritten by the shift, DOS is asked to resize the file, and the updated index is

rewritten to disk.

Major Functions (cont)

Sysop Name Search

The Sysop Name search is invoked by the F)ind O)perator command and will search the sysop index for a sysop's name and display the corresponding node and then ask whether you want to seek out any next or previous name that also matches the given text.

Normally, the text you enter is taken to be (at least) the beginning portion of the sysop's LAST name. If you enter two words without a comma, then the program assumes you have entered a FULL name and reverse the words, adding a comma, to create a phone book style format. Because of this, you should only enter two words when it is a full name. Eg, a partial, two word name, like "Tom K", would end up as "K, Tom". If you were looking for me, you might enter "Tom Kashuba", "Kashuba", or, maybe, "Kash".

When entering names in the above manner, a binary search is performed on the sysop index. It is very fast but relies on your input being LAST NAME FIRST. If you are not sure of the name and only recollect a text fragment of it, you can request a linear search that will search each and every record for any name that contains the given text. To request this kind of search, you prefix your text with a question mark (?). Eg, "?TOM".

When requesting a linear search (?text), you should only enter a single, small piece of text without spaces. Spaces trigger an attempt to reverse the text into the reverse name order that the sysop index is stored in and would probably result in a search text that is not what you intended.

Regardless of which method you request, whenever a match is found, you are asked whether you want to find the next or previous match. This allows you to choose among several nodes whose sysop names match the search text.

When a binary search is requested (without a '?' prefix) but no match is found, you are asked if you want to try again using the linear (ie, "Wild") search. If you request it, then the same text you entered for the binary search is used, again, for a linear search. This is adequate if you entered a short, single piece of text but will probably do no better if you entered what you thought was a full, correct name.

When unsure of a sysop's name, use the linear search with just a short name fragment that you are sure exists within the desired name. Eg, if you know he or she was Irish and had "Mc" in their name, you would enter "?mc". Likewise, if the sysop's first name was John, then use "?John". If, eg, you entered inadvertently "John", then only those whose LAST name starts with "John" would be found such as "Johns", "Johnston", and so on.

Major Functions (cont)

Changing Special Addresses

In order to preserve the complex nature of the nodelist index, you are prevented from changing addresses of Region or District administration nodes. These must be maintained, as is, because they are stored in the nodelist index in a unique manner that can only be properly handled by a complete nodelist compilation. If you really need to change a Region or District admin node, then use your nodelist compiler to do it properly.

User Manager

SUMMARY:

This function maintains the user file. It operates on the user file as defined in the active Opus.Prm file or in the Oman.Cfg file, if overridden therein.

The operation of the User Manager is quite straight forward. Upon entry, you are shown the record of the first user which is typically the Sysop. You use the cursor keys to move about the records, making changes to the fields, as needed. To change any field of any one record, you use the highlighted keys that preface the field name.

The Oman screen and On-line Help system are your prime sources of information on the operation of any given function. Please use them.

FEATURES:

- List users by all, name, or location fields
- Mark users as KILL for later removal by PACK
- Pack users, removing records marked as KILL
- Sort users into any of several different orders
- Find user by name, location, marking, or with suspect data
- Clear user's 24 hr time & DL limits
- Reset a record to default values (ZAP)
- Create, track, and maintain Custom Welcome Files
- Renumber Custom Welcome Files during sorting and packing
- VIEW filter limits record selection by several criteria.
- GLOBAL editor for changes to all records in a VIEW.
- Fully supports and maintains User Expiration Control data.
- Automatically creates and maintains the user index
- Allows editing of Last Message Read (LMR) pointers.

Major Functions (cont)

NOTES:

W)rite and R)estore:

When any changes are made to a record, the "*UPD*" indicator lights up to remind you that you of that and that need to use the "W)rite" command to write the record back to the user file. It is done this way so that, should you inadvertently mangle a record, you still have a chance to use the "R)estore" command to reload the data from the user file.

Removing Records:

To remove a record from the user file, you need to first mark it as KILL with the K)ILL command and then pack the file using the P)ACK command. The K)ILL command only sets a flag on the user record. It is the P)ACK command that physically recreates the file, dropping all records which have the KILL flag set. It is done this way so that you can take your time, mark records to be killed, review them, and, sometime later, physically remove them.

In multitasking scenarios, this method allows you to do some routine maintenance while there is an Opus running in another partition or on another network CPU. It is only when using the P)ACK command that you need to have all Opera inactive. Oman tries to check that this is the case but common sense is always the best protection.

REMEMBER: Never pack the user file when an Opus is using it. Doing so may destroy your user file.

Sorting Records:

You can sort the user records into any of several orders that you specify, when asked. You specify the sort order as a string of certain letters, each of which represents a particular sort field. Eg, entering "PAN" will sort the records into order based on Privilege, Call Age, and User Name. Or, "PU" would sort them by Privilege and Uploads. The order of the letters is in descending order of sort priority.

NOTE: *NEVER* SORT THE USER FILE IF ANY OPUS IS OPERATING!

VIEW Filter

The VIEW command allows you to limit the user records that the NEXT, PREVIOUS, and some LIST commands will display based on one or more criteria that you set on the full-screen VIEW setting screen. Up to 10 view settings are stored on disk so that the next time you use the command, the previous settings will be available for reuse, as is, if still applicable.

The User Manager starts up with the view filter turned off. When you press (V)IEW, you can activate the previous view settings with the (O)N command or you can edit the view criteria with the

(D)EFINE command.

Major Functions (cont)

When VIEW mode is turned ON, you can see records that are not in the view by jumping directly to them. When a displayed record is not in the view, the VIEW indicator also shows the words "OutOf". As soon as you use the NEXT or PREVIOUS movements commands, you will go to the next or previous record that is within the view.

Global Edits

The GLOBAL edit command is very powerful in that it works with the VIEW filter and allows you to make one or more changes to each and every record in the user file that matches the current view. Because of this relationship, the GLOBAL command first invokes the VIEW filter edit screen so you can verify or change the current VIEW settings. After that, you are then presented with an almost identical screen that lists the fields that you can globally change. Don't be confused by this. Although similar in appearance, they are quite different in function. Use the On-line Help for more details.

Auto-Preening for C)ity Field

The carot command (^) on the User Manager menu applies predefined edit rules to the U)ser C)ity field for semi-automatic text preening. That is, it will automatically try to fix up the city text into a more standard form based on the edit rules which are stored in an external text file, called "OMANCITY.FIX", that you create in Oman's home directory.

When invoked, the rule file is opened, sequentially scanned, and each of its rules are then applied against the U)ser C)ity field of the currently displayed user record. After all rules have been applied, the cursor is placed on the C)ity field in edit mode so you confirm the changes or make further ones, yourself.

NOTE: Although the operation of these preening rules is similar in concept to the Opus dirty name filter, the syntax is quite different and somewhat more powerful.

See the Appendix on City Field Preening Rules for more details.

LMR Table Editor

The "M" command invokes an editor that allows you to display and alter a user's Last Read Message (LMR) Pointer Table. All 255 possible LMR pointers (0-254) are displayed using two screen pages.

Page 1 displays the LMR values for areas 0-129 and page 2 displays areas 130-254. You can toggle between the two pages with the P)age command or via the Pgup, PgDn, Up, or Down cursor keys.

To alter an LMR value, you just enter the desired area number as decimal, without any prefacing command. As soon as you enter a digit, the program knows what you want and prompts you for the rest of the area number. Once the desired area number is

entered, the cursor jumps to the requested LMR value in the screen table and prompts you to enter its new LMR value.

Major Functions (cont)

If the desired LMR value is not on the screen page currently being displayed, then the appropriate page is automatically displayed and the cursor is placed on the appropriate LMR field for editing.

Note that you can alter any of the 255 possible area LMR values, even for those areas that do not have a message area defined. In that case, any value that you set will have no effect since Opus will never refer to it.

Multiple View Definition Sets

The View Definition screen allows for the display, edit, and retention of up to 10 different View Definitions. When you first enter the View Definition screen via either the V)iew D)efine or G)lobal commands, you are shown the first (View 0) of 10 possible View Definitions, numbered 0-9. To switch to select any other, you press its digit (0-9) or the LEFT and RIGHT keys to rotate through them in either direction. The one that is displayed when you exit with the A)cept command is the one that will be used.

Any changes you make to the currently displayed view set are automatically saved whenever you leave the View screen or when you switch to another view.

The View Title command allows you to attach a descriptive title to each view. View titles are initially preloaded with default names such as "The 0th View", "The 1st View", etc.

View Filter Field: Last Call Days

The view filter field, LastCallDays, accepts a -1 value in the MinDays or MaxDays fields which is a special value that will match just those records that have no Last Call Date, ie, those users who have not called yet. Empty Last Call Dates often occur on systems that require pre-registration when a user record is opened for a newly registered user who hasn't called yet.

Eg, a range of "-1 -1" would select only those records with an empty Last Called Date. Other combinations with -1 in the Min or Max fields won't mean much. A "-1 10", eg, would select both users who never called yet and those that called in the last 10 days.

View Filter Field: Days to Expiry

This filter field will select any record whose days to expiry fall within the given range - even if such records are not set to Expire-By-Date. This allows you to seek all records with some amount of days to expiration, regardless of their expiry type setting. To select those records that are set to Expire-By-Date and have a given number of days to expiry, also set the Expire-By-Date filter field.

Major Functions (cont)

View Filter Field: Minutes to Expiry

This filter field will select any record whose minutes to expiry fall within the given range - even if such records are not set to Expire-By-Mins. This allows you to seek all records with some amount of minutes to expiration, regardless of their expiry type setting. To select those records that are set to Expire-By-Mins and have a given number of minutes to expiry, also set the Expire-By-Mins filter field.

View Filter: FidoNet Dollar Balance

The FidoNet Dollars can select users whose have a FidoNet Credit balance within the given range. Since the range is given in whole dollars, the FidoNet balance of each user is rounded up to the next whole dollar. Eg, balances between 0.01 to 1.00 would be taken 1 dollar, 1.01 to 2.0 would be taken as 2 dollars, and so on. It is done this way so, even with only whole dollars to deal with, you can still look for ANY balance that is greater than 0. Eg, with a minimum value of 1 and a maximum value of NoCare, you would select any records with a balance of at least 1 cent (0.01) since 0.01 would be rounded up to 1.00.

Area Manager

SUMMARY:

The Area Manager maintains the System Area definition files, allowing you to make dynamic changes to the system areas. With it, you can change the paths, titles, privileges, keys, or other attributes of each area. It basically operates in a full screen, one area per screen, edit mode.

Since any changes made dynamically will *not* be reflected in any existing control file definitions, you should run PEPPER after you make any changes so that your SALT control file will be kept up-to-date.

The Oman screen and On-line Help system are your prime sources of information on the operation of any given function. Please use them.

NOTES:

Default Record

When first entering this function, a special DEFAULTS area is displayed. It behaves as if it were numerical area -1. That is, the lowest possible area that occurs BEFORE Area 0 and AFTER the highest allowable one. When you run the Area Manager for the very first time, a few of the DEFAULT fields, such as the HELP path, are set to those of System Area 0 and saved in a special defaults file called, "System.Def". Any subsequent saves of this

special record will update that file for future use of the Area Manager.

Major Functions (cont)

The C)opy command:

The C)opy command is interesting in that it will copy all of an area's definitions to a new area. If the new area is already in use, you are asked to confirm your wish as it will obviously destroy any definitions that area currently has.

W)rite and R)estore:

When any changes are made to a record, the "*UPD*" indicator lights up to remind you that you of that and that need to use the "W)rite" command to write the record back to the area definition file. It is done this way so that, should you inadvertently mangle a record, you still have a chance to use the "R)estore" command to reload the data from the area definition file.

Event Manager

SUMMARY:

The Event Manager is a full screen, tabular editor that allows the complete editing of all events that comprise an Opus schedule. With the editor, you can add, delete, activate, deactivate, or modify events of all types.

Each event is displayed on a separate line which shows the type and the many options of each event. Using its main screen you select an event, then toggle or set its options. To add or delete an entire event, you use the maintenance menu.

If no event file is found upon entry to this function, it will allow you to create a default schedule that you can then edit to match your particular needs.

Use the Event Manager's On-line Help for detailed information on all of the various event types and fields.

Global Manager

SUMMARY:

This function manages those items that are of a global nature, ie, applicable to all running Opus systems, regardless of their task. For now, that means just the Quote Pointer, System Call Count, and the Maximum Task Number (future use).

NOTES:

The Quote Pointer and Call Count are initially stored in the predefined Schedule File. But, if a COMMON DATA file is defined,

then these fields are stored in that file and updated there,
instead.

Major Functions (cont)

When a COMMON DATA file is defined, Opus continues to update the Call Count in the Schedule File, as well. Since most multi-line Sysops define separate schedules for each line's task, the Call Count in the COMMON DATA file will then reflect the total calls to the system across all lines and the Call Count in each individual schedule file will reflect the total calls to each line.

The Global Manager displays the fields from both the currently defined schedule as well as from the COMMON DATA file for editing and viewing convenience.

Log Surveyor

SUMMARY:

The Log Surveyor prescans the Opus log and displays it in a tabular, compressed, and highlighted manner that makes it easy to review all logged activity. For very large logs, it asks you choose what 1/10 of the log you want to review.

NOTES:

When requesting this function, Opus prescans the log then jumps to the last page of log entries. From then on, you can jump, by page, forward or backward in the log file. Each log session has the first applicable entry for that session highlighted so that sessions are clearly delineated.

Log sessions are broken into the three classes of Opus, User, and NetMail, each being displayed with different screen attributes.

Menu Manager

SUMMARY:

The Menu Manager allows the editing of the Menu file that contains all of the Opus menus that are available to callers. It allows the addition, deletion, and modification of all menu commands on all menus. For each command on every menu, you can edit the command's:

- Command's Title
- Minimum Privilege to access the command
- Minimum user keys required to access the command
- Internal Opus command to execute
- Optional data required by some commands

Major Functions (cont)

NOTES:

Opus has a fixed number of predefined menus. You cannot add or delete entire menus, only the items within each menu. Likewise, you cannot remove all the items in a menu since that would be the same as deleting the entire menu.

When adding items to a menu, don't go overboard because, as the menus get larger, they require more memory within Opus. It is entirely possible to add so many items that Opus will not be able to load the menus or, if it can, will experience operational problems due to lack of memory. As a general safety rule, you should add not more than about 3-4 items on each menu. This maximum is only a suggestion and will vary greatly from system to system.

Caller Status

SUMMARY:

The Caller Status Information screen is designed specifically for multi-line Opus systems with 2 or more active Opera running concurrent to the running of Oman. Eg, on my system, I run Oman on my network server (non-dedicated) while 4 other Opus systems are running on separate boxes across the network. In this scenario, the Caller Info screen shows information on the five possible Opera; the 4 active lines and one showing the last run of my local Opus test system.

This function lists connection information about the current or last caller on each of the lines in tabular fashion, including the TaskNo, Speed, Caller Name, Caller Location, and session timing.

To keep the information timely, the Opus system area is repeatedly scanned for task related information files every 15 seconds or so and up to the lowest numbered 18 tasks are reported on. Any more will just be ignored.

The refresh rate is adjustable with the CSDelays configuration file command, which has the form "CSDelays {loc secs} {rem secs}". The first argument refers the seconds between screen updates when in local mode and the second refers to the delay when running remote. This segregation of remote and local time delays allows you to set a longer delay just for remote mode so that the slowness of the modem won't result in continual updates and needless modem traffic and a very short delay, eg, 10 secs, for local mode. The lower limits are 5 and 15 secs, as in "CSDelay 15 30".

As with the other functions, this one can be directly executed with the "EXEC CALLS" CFG statement or the "-xc" command switch.

Major Functions (cont)

NOTES:

Single task systems can still use this feature, however, but only to display the LAST person who called on their single line. Since, on a single task system, your only available task would be used to run OMAN, no one could be connected at that time.

Quick Start

If you are masochistic and have found your way to this section without reading the rest of the notes, then here's how to get the program up and running, quickly (at your own risk).

- 1) If you haven't done it already, unpack and place the Oman files in the directory where you put your commonly used Opus utilities or any previous version of OMAN that you might have. The Opus home directory is most often used. There is a sample configuration file included in this kit but since it is called SAMPLE.CFG, it will not overlay or destroy any previous OMAN configuration file that you might already have.
- 2) Delete any OMAN.VUE file you might find in your OMAN directory because this version changes the format and use of that file.
- 3) If desired, create a configuration file using one of the simple examples in the configuration section of this document. You usually won't need to do this if you are willing to put up with the absolute slowest video display method that it defaults to.
- 4) Run the program, specifying the Opus parameter file name (without extension) on the command line. Eg, if your Opus parameter file is called Opus.Prm, then you would start Oman with the DOS command: "OMAN Opus".

If you have a 100% CGA or MDA compatible video adaptor, then you can use Oman's fastest video mode (RAM) by adding the command line switch "-vr" as in "OMAN OPUS -VR".

The program will start up and display the parameters screen. Any key will then bring you to the main menu. As stated elsewhere, however, there are several run-time options to better customize it to your individual needs but to properly use them, you'll just have to read the documentation.

- 5) Once you are up and running, you should set up an Oman configuration file in which you can permanently set your Opus parameter file, video mode, and many other things. Review the SAMPLE.CFG file and use it as a starting point for setting up your own particular version of OMAN.CFG.

Revision History

This is a brief summary of the changes and new features in v1.17 that were added since the previous public version of Oman, v1.16.

General

- o Fixed a mite in the path checking function that overzealously disallowed some forms of otherwise legal paths whose last directory level name had an extension. The unavoidable downside of this fix is that path checking is less stringent than before.
- o Changed control file "Port" verb to accept ports from 1 to 16 just as the -p command line switch already allowed.
- o Session macros for emulating DOS redirection. See Appendix on MACROS for more details.
- o The text field edit logic has been changed so that any of the special exit keys which might be active for a given edit field, such as ESC, UP, DOWN, et al, no longer erase the field upon exit. Instead, the field contents are left as they were up to the point of the special exit.
- o Fixed mite which sometimes ignored the presence of an overriding PRM file specification in the environment string OMAN=. However, some other mites reported in this area were actually due to the capitalization of the environment variable which must be in UPPER CASE. That is, you should not use "oman=", "Oman", "oMan", or "oMAN".
- o Added Caller Status function. See section on this item.
- o Added GLOBAL, MENU, LOG, and CALLS as EXEC options in the CFG file. Previously, they had been left out. For example, "EXEC LOG" will now auto boot into the Log Viewer.
- o Fixed a long-standing and long-overlooked mite which was setting the port specified by the -p command line parameter to one higher than the given value. Eg, -p1 was taken as COM2:.
- o Fixed another mite related the "PORT" CFG command which may have caused intermittent problems in the setup of some remote cases.
- o Modem Ring Watcher

A new optional "RingMode Beep" feature can be set to monitor the modem on COM1 or COM2 for a RING signal and BEEP the speaker each time an incoming RING signal is detected. See Appendix section on Ring Mode for more information.

Revision History (cont)

Outbound Manager

- o By popular request, I have reluctantly removed all limitations on the E)rase command. It will now allow you to erase virtually any item - including a 5 megabyte ArcMail file. Please BE CAREFUL!
- o Changed the way to select the 'miscellaneous' file types that will be included in the outbound display. Before, the "F"iles command first toggled the overall inclusion of miscellaneous files types that weren't mailing files. Once toggled on, you then had to set the types to show. That two step process has been eliminated.

You now directly set the file types to include directly from the "F" command's menu. That menu now also includes options for "O)ther" types, "ALL" types, and "NONE" (no types). The "O)ther" option is a catch-all that includes all files that do not fit into any other known category. Try the "F" command. It's easier to use and see than to explain.

- o Changed the way the lines are numbered in the outbound area. The numbering should now appear more consistent with line numbers for lines greater than the total number of objects being blanked out.
- o Fixed mite that disabled the detection of ACTIVE*.DAT files which is used stop unwary Sysops who Sort or Pack with an Opus running.
- o Changed coloring of ARC and FiReq objects. ARC's now show as Low B/W like other raw files and FiReq's as Bright for better clarity.
- o The display of Bad Call marker files (xxxxyyyy.\$*) now includes the number of tries as trailing text "(# Tries)" after the file name display. This feature is geared toward Binkley style marker files that are at least 2 bytes in length and have the count stored as an Intel (lo/hi) 2-byte integer in those first 2 bytes.
- o Added =)Macro command to Outbound menu for limited use of macros from that menu.
- o Fixed a memory size calculation error in the outbound mail object loading routine that allowed more objects to be loaded than could fit in memory due to a math overflow of the computed memory size. The routine now checks for the total number of objects, as well as their total size and should now stop before the maximum is hit, issuing an error message saying it cannot load any more.

Revision History (cont)

- o As part of the above fixes, the maximum number of outbound mail items that can be loaded and viewed has been increased from 630 to about 840. This was accomplished by reducing each mail item's file path field length from 64 to 40. This is the field that displays either a simple packet's actual file name or, in the case of file requests and attaches, the path to the files in the list. This shouldn't cause any problems unless you have extremely long paths. Even then, it shouldn't be fatal; they probably just won't display properly or be accessible for maintenance.
- o Fixed mite in the X)pand H)eaders code that caused all the headers in those packets that had more than one to quickly overprint so you only say the last one.
- o Added allowance of an outbound mail holding directory with the form "d:\". Previous versions were already fudged to accept the simple root form of "\". This version adds the "d:\" form, also.
- o Added new quick exit to DOS via the backslash command (\).
- o In the S)endFile function, added D)irect to the list of P)riorities that a file attach can be assigned.
- o Added the configuration file statement "FiAttPrio {priority}" which sets the default file attach priority used in the S)endFile function. Eg, "FiAttPrio Direct" will set the default to DIRECT. If not used, the internal default of NORMAL is used.

User Manager

- o All strings fields on the User Manager's main record edit screen can now be cleared, as one might have expected, by pressing Ctl-End while in column 1. Previously, completely clearing a string field would restore the previous data unless you left the field with at least one space in it.
- o The view definition screen now accepts negative values in those criteria specified by numeric ranges such as Days to Expiration. Although you can enter them, negative values in most of the other ranges won't be meaningful.
- o View filter field, Last Call Days, now accepts a -1 in the MinDays field to catch those records with no last call date.
- o Added several new view filter fields:
 - Days to Expiry
 - Minutes to Expiry
 - FidoNet Dollar Balance

See User Manager notes for more information.

Revision History (cont)

- o Added =)Macro command to UserMgr menu for limited use of macros from that menu.

Eg, if you had a club called the "Action SIG" that had several generic user codes on your system (eg, "Action 1", "Action 2", etc), then might want to set the REMARKS field of all those records to the string "Action Computer Club". To do that, you could set up a macro file, eg, MACRO.A, which contains the following commands:

```
ut{DelEnd}Ashton{ }Computer{ }Club{Cr}
```

Then, while on each related user record, you need only press "=A" to completely set the REMARK field as desired. Refer to the section on "MACROS" for more details on use of macros.

- o Fixed some minor mites in the field length logic that caused some screen garbage when displaying completely filled text fields. Eg, were you to have filled the REMARK field to its maximum of 32 characters, the program would have tried to display 33 characters, resulting in some trailing garbage.

NOTE: Although the program now allows you to enter the absolute maximum for the user text fields (eg, CITY, REMARK, etc), some other programs or utilities may have trouble dealing with a text field that is so completely filled. For upmost compatibility with other programs that can't cope with text fields filled to their very last position, you may want to avoid using the last position.

- o View Definition Screen: Made all fields prompt labels more consistent by placing them in square brackets [title].
- o Global Field Edit Screen
 - Added better handling of cursor movement. Now, the Up, Down, Left, and Right cursor keys consistently move through all fields without unexpected jumping around.
 - All field prompts were reworked into be more consistent format.
 - Text fields (such as the Special Welcome File Name) now require you to either press ENTER (or a character acceptable to the field) to start the edit of that field. Much in the style of dBase field editing, this allows you to move between fields with the cursor keys without inadvertently falling into the edit of fields you only wanted to jump over.
 - The prompt ".)Skip" has been replaced by ".)NoChg" to better convey its meaning.
 - To accommodate the above changes, multicharacter fields are now shown in inverse when they are being edited.

Revision History (cont)

- o Added "M" command which invokes an editor that allows you to display and alter a user's Last Read Message (LMR) Pointer Table. See User Manager notes.
- o Added new user field to the "Display" field group called "Speech" which allows you to display or toggle the new Speech Synthesizer (SET_TALK) mode. This mode reduces the textual complexity of menu output for speech synthesizers used by the blind community as is intended for Opus versions *later* than v1.13.
- o Increased the maximum display length of the User Record text fields like Logon_Name, City, True_Name, Remarks, and Password to match the editable maximum. Previously, one less character than the editable maximum was displayed, leaving the last character of any completely filled field on the screen.
- o F)ind N)ame now searches *both* the Name *and* the True Name fields. Eg, a target of "art" will find a user name of "Martina" or a True Name of "Shirley Martina Bassey". Note, however, that the L)ist N)ame functions (screen or printer) do not check the True Name field since it is not one of the listed fields.
- o Added new quick exit to DOS via the backslash command (\).
- o Rearranged the E)xpport screen somewhat and added the two User fields of Phone and Remarks to the list of exportable items.
- o Added multiple View Filter sets. See User Manager Note.

Area Manager

- o Comming in next ver off oMAN.

Revision History (cont)

NodeList Editor

- o Complete Rewrite of NED

NED has been completely rewritten to accommodate the Version 7 nodelist that Opus 1.7x and BinkleyTerm 2.5x now use. Because of the complexity of the V7 support logic, it was necessary to drop support of all earlier nodelist versions.

- o Full 4-D Address Support

As part of the features available with the Version 7 nodelist, NED now fully supports the display, listing, finding, addition, deletion, and update of points.

- o V7 Record Updates (via the W)RITE command)

Due to the space-saving complexity of the variable length record structure of the V7 nodelist, it would not usually be possible to update a record in its place since its length changes with any change to the textual fields in the record.

Because of this, and to limit the complexity of the W)rite logic, the W)rite command actually deletes the Address and Sysop index entries pointing to the physical node record and then re-adds the new record at the end of the physical data file. The indexes are then updated and the record will appear to be in the proper place.

This should present no problem for most users since the nodelist is re-compiled once a week. Still, one should not get too "update happy" because each W)rite will increase the size of the physical file by the size of the current record. If you have a large hard disk, then you can ignore this friendly advice.

- o Improved List Formatting

The on-screen L)ist command now displays each node on 2 lines so that the full fields for System, Sysop, Location, and Telephone can be shown. The first line is highlighted for clarity.

- o Expanded F)ind options.

- o Selectable Index Order

The order node browsing and listing is now selectable between Address or Sysop order. The order starts out set to Address order and can be switched to Sysop order, and back, with the new N)ode-Order command. The current order is always displayed in the top left area of the screen.

The active order remains in force until changed with the N)odeOrder command or by some commands which logically require a new different order. The F)ind O)perator command, e.g., switches the order to

Sysop is not already, while the F)ind A)ddress command switches the order to Address.

Revision History (cont)

The list function will list the nodes in the active order for most of its sub-options but will change it to the appropriate one if a L)ist O)perator or L)ist A)ddress is requested.

- o Changed A)ddress command.

The new A)ddress command now updates the address of the current record and, then, automatically rewrites the record (via delete and append) so that the address key is properly updated. Before, the address field was allowed to be changed like any other field. That made it impossible to W)rite the current record because the old address was lost when the new one was set and the old one was needed for the delete.

- o Added new E)ditAll command

E)ditAll performs a full screen edit of all node record fields except the address. The UP/DOWN/PgUp/PgDn cursor keys allow you to jump between fields. When done, ESC simply exits the edit mode. If any changes were made, then the UPDATE indicator is lit, allowing the user to update the database via W)rite the record or to abort the changes with the R)estore command.

- o Added =)Macro command to NodeList menu for limited use of macros from that menu.
- o Fixed a well-camouflaged mite in the Node Editor that had the nasty habit of trashing the nodelist index when inserting a new node or editing an existing node's address <head hung in shame>.
- o Added prevention of address edit on those nodes which are stored in the index as special marker nodes. These include Zone Hosts, Region Hosts, and dummy comment nodes. Previously, editing the address of such nodes would have messed up the index, a little because their internal values are different than what is displayed and changing their address would trash their internal marker values.
- o Added prevention of setting the Bits that denote Zone and Region hosts for the same reasons as in the above item.
- o Changed the Message CallCost and Message UserFee field display and edit formats to decimal dollars; not cents. A number entered without a decimal is assumed to be in cents. Eg, entering "1.30" or "1.3" is taken to mean \$1.30 whereas entering "13" is taken to mean \$0.13. That should make cost entry easier for most Sysops.

Also increased the maximum allowed value to the internal maximum of 65535 cents, ie, \$655.35. That should handle even Steve Antonoff's local Bell rates :-)

Revision History (cont)

- o Changed the edit logic for all text fields in the Node List Editor so they are trimmed of all leading and trailing blanks before and after editing them. Previously, they were not trimmed before editing which prevented any inserts until manually trimmed.
- o Fixed problem that required you leave at least one blank in an otherwise empty text field to clear it. Clearing it completely had simply aborted the edit, leaving the original contents. You can now clear any text field by simply clearing it completely as you would expect.
- o Added new quick exit to DOS via the backslash command (\).
- o Fixed a long standing and overlooked mite that caused all variations of the Node L)ist function to list all nodes, regardless of the search criteria entered. The L)ist S)ystem, L)ist L)ocation and L)ist B)aud show now work as expected.

Revision History (cont)

Event Manager

- o Changed behavior of the Scheduled Days editing. Now, any change to any of the Scheduled Days turns OFF all "DONE" flags so that all events will run when their appointed time is at hand. Before, for safety reasons, any Scheduled Days editing turned OFF all "DONE" flags and depended on the Opus kernel to reset them when it saw they were all off or for the Sysop to manually reset them using the DONE flag editor.

Event Day editing should now work as most expected it to but side effects should be watched for such as having a freshly edited event begin immediate execution if its scheduled time is at hand.

- o Added the forced upper case display of scheduled days for those events that do not use the DONE flags since such events are always active and the meaning of upper case is "will run; not done". This includes the event types of BEHAVIOR, YELL, MAILER, and USER.

The types that are not affected by this cosmetic change are those that do use the DONE flags which are EXIT, HOLD, and SCAN.

- o Added new quick exit to DOS via the backslash command (\). Please note, however, the menu was too tight so it's not on it.

Menu Manager

- o Fixed mite in menu file selection that allowed selection of an invalid menu cell, risking possible crashes.
- o Added new SET_TALK command to configuration menu command set that sets the new Opus "simplified text" mode. This mode reduces screen output complexity, making it easier for speech synthesizers to translate Opus menus. The value of this new mode is stored in the user's record and can be viewed as a new field called "speech" in the "Display" section of the User Manager's record screen.

Caller Info Status

Added new Caller Info screen. See Major Functions section.

Revision History (cont)

Log Viewer

Added new quick exit to DOS via the backslash command (\).

Log File Display Format

Added the LOGINC CFG command to set the type of data that is included in the display of the log file. Previously, the setting was not stored or externally settable and could only be set within the log viewer, each time it was run.

```
CFG Command: LOGINC {[User] [Net] [Run] [Misc]}
              ... User: Show BBS type caller info
              ... Net:  Show Network Mail call activity
              ... Run:  Show Session Start/End info
              ... Misc: Show anything else not in above
```

Like OHMFMT, the Loginc setting is also now displayed on the parameter screen.

Global Data Editor

Added new quick exit to DOS via the backslash command (\).

Help System

Fixed a few mites in the Help text which should make paging through some of the help sub-menus more fluid. Previously, the PgUp and PgDn keys didn't work properly when you were on some of the sub-menus within the help system such as the topical menu with the Event Manager and User Manager help sections. You should now be able to page forward and backward through all related help panels, including any of the topical sub-menus.

Credits

The credits for those who have contributed to existence of Oman and Opus could fill volumes. As with all things in the PC BBS world as we now know it, there are many pioneers and contributors without whose help we would not have what we have now. Here's a partial list of those who have most affected my work in one way or another:

... Ward Christensen ...

Ward has to get top billing for creating and donating X-Modem, the first reliable and well documented method of exchanging binary files using those new fangled things called modems. To this day, despite its age and due to its simplicity, it is the most commonly found file exchange protocol in the world.

... Tom Jennings ...

It goes without much saying that the Opus project, and the world of FidoNet electronic mail, is based exclusively on the original On-line PC communications system model created by Tom Jennings, as first manifested in his Fido Bulletin Board Software.

... Wynn Wagner III ...

Wynn's Opus CBCS model advanced the Fido model, further still, with more advanced and efficient telecommunications methods, the inclusion of Z-Modem file exchanges, the WaZoo netmail protocol, and a host of other innovations. It is Wynn who created the Opus world that this product lives within and the Opus team that I am part of.

... Vince Perriello and Bob Hartman ...

Vince and Bob, contributed, enormously, to the advancement of the overall netmail and Opus environments. The ConfMail, Ommm, and Renum programs created by Bob, the BinklyTerm electronic mail program by both of them, and Vince's Opus telecommunications contributions share very prominent roles on the Opus stage.

Tom Kashuba..... For let Ulf to work with this project.
George Stanislav For Opus, Avatar and OEC advancements.
Doug Boone For keeping the ball rolling.
Bob "Scribe" Davis..... For his tremendous support and cool head.
Mike Elkins For introducing me to the Opus gang.
Chuck Forsberg For creating Z-Modem.
Rick Huebner For fitting Z-Modem into Opus.
Colin Sampaleanu For giving Z-Modem to the callers.
The Opus Test Crew For shaking down this, and previous versions.
Cheryl and Bev. For finding problems I never dreamed of.
My Lovers & Partners .. For putting up with me through it all.

Appendix I - Command Line Switches (cont)

-]{m} Macro Record Mode: Records all key-strokes in the file "MACRO.{m}". Eg, "-]T" would record keystrokes in the file "MACRO.T" for editing or playback by the "-[T" switch or "=" command. See Appendix on "MACROS".
- [{m} Macro Playback Mode: Plays back the key-strokes stored in the macro file, "MACRO.{m}". Eg, "-[X" would take key-strokes from the file, MACRO.X. See Appendix on "MACROS".

These command switches are sent by Opus when it shells to an external program, such as Oman, but can also be entered, manually:

- P{1-16} Remote COMM port 'n' (1-16)
- B{baud} Remote baud rate of 'n' (1200,2400,etc)
- K Local mode (from Sysop keyboard)
- Fn User's current file area 'n'
- Mn User's current message area 'n'
- Rn User's remaining minutes 'n'
- Tn Current Opus task no 'n'

■■■■ Appendix II - Configuration File Commands ■■■■

The configuration is a plain ASCII text file that contains configuration commands, one per line. Each command starts with a verb and is followed by a number of option settings as required for the particular verb.

Blank lines and any portion of a line following a semi-colon are skipped completely. Therefor, prefix all comments with a ';'.

Currently supported configuration commands:

Command Syntax	Description
CMDline {ON|off}	Scan command line options (or not)
COLOR {ON|off}	Force use of color (or not)
HELP {path}	Alternate path to the OMAN.HLP file
OPUSSys {path}	Opus "System" directory
OPUSRoot {path}	Directory where Opus resides
GLOBAL {path\file.ext}	Global (COMMON) data file
DEFOCD {integer}	Default Outbound Call Delay used when creating new events
SYMBOLS {IBM|ASCII}	Allow IBM graphics or convert them to their nearest ASCII equivalent.
NETMSG {path}	Netmail directory (future use)
INFILE {path}	Inbound files path (future use)
EXEC {OUTBOUND | NODELIST | USER | AREA | EVENTS | LOGVIEW | CALLER}	Start up with given function
NETID {net addr}	Prime address Zone:District/Node
NETINFO {path}	Nodelist directory path
OUTbound {path}	Outbound mail (Hold) path
PARM {path\file}	Opus parmfile path\file (no ext)
SYSOP "{name}"	Sysop's Name (use quotes)
SYSTEM "{title}"	System Name (use quotes)
USERfile {path\file}	User file path\name

Appendix II - Configuration File (cont)

ULIST {path\file.ext} Default user list device or file

ALIST {path\file.ext} Default area list device or file

SCHEDULE {path\file.ext} Opus Schedule File

VIDEO {IBM|DOS|FOSSIL|RAM [VideoSegment]}

Video Method. If RAM, an optional second argument (4 hex digits) can be given to set the video buffer's segment address, eg, A000.

LOGFile {path\file} Opus log file path\file

FOSSIL {Active} Leave FOSSIL active on exit

PORT {1-16} Remote operation via comm ports 1-16.

SPEED {baud rate} Remote baud rate, eg, 2400

REMPWD {password} Remote password

NAKEDREQ Don't make POLL with File Requests

RINGmode {BEEP | EXIT} {port} Sense incoming ring on port {port} and just beep the speaker {BEEP} or also immediately exit to DOS {EXIT}. The EXIT mode is only supported by certain functions such as the CallerInfo screen.

CSDelay {locsecs} {remsecs} Specify the Caller Info screen's refresh time (in seconds) when operating locally {locsecs} and remotely {remsecs}.

XLTOUT {path\file.ext}[DUMP] A 256 byte Output translate file with 1 byte per code. If a byte is a binary zero, the original character is used, as is, otherwise, the byte's value is sent, instead. If the DUMP keyword is present, the default internal translate table is dumped to the given file name so only use it once to generate a starting translate file that you can then binary edit to create a custom translate table.

OHMFMT {FILES|ZMODS|ZARCS|NOCALL|ALL}

Sets outbound display detail.

Appendix III - Macros

NOTE	Advanced Feature. Use with caution!
------	-------------------------------------

Due to a DOS problem that makes it difficult (if not impossible) to receive redirected keyboard presses without them being screened for ^S and other special keyboard sequences, the keyboard I/O routines directly access the BIOS when the video mode is set to IBM or RAM. Unfortunately, this prevents redirection of input (in those fast I/O modes) which some Sysops had been using to create a session level macro that would run some key stroke sequences prestored in a redirected input file.

To better accommodate such scenarios while retaining the direct BIOS keyboard interface required for proper keyboard handling, the command parameters of "-[a" and "-]a" were added which playback or record an external macro file. This not only provides a good substitute of DOS redirection of input, but also allows for easier manipulation of the commands because each keystroke is stored in a symbolic fashion. Eg, ENTER and ESC are stored during recording (or interpreted on playback) as {Cr} and {Esc}.

... Recording a Macro ...

You can create a macro file directly with any text editor or you can use the new "-]a" command switch (like DOS's ">" command) to create one for you by recording all the keystrokes that you enter during the entire execution of the program. It instructs the program to RECORD all keystrokes entered during a run session in the file "MACRO.a" where 'a' is the single, alphanumeric character (0-9,A-Z) specified in the command.

... Playing Back a Macro ...

You can start the playback of macro as soon as the program starts with the "-[m" command line switch, from most of the main function menus with the "=" command, or both.

The new "-[a" command switch (like DOS's "<" command) instructs the program to take its keyboard input for that session from the file "MACRO.a" where 'a' means the same as described, above. For example, the command switch of "-[G" would play back the commands stored in the macro file, "MACRO.G". When the file has been completely read, the program will resume taking its input from the keyboard (or remote).

You can also execute a macro from most of the major function menus with the new "=" command. If it's available, pressing the "=" will prompt you to enter the letter code (A-Z,0-9) of the macro to run.

Appendix III - Macros (cont)

... Macro file coding rules ...

- 1) A macro is a plain, ASCII, text file with key codes in it.
- 2) Each regular key (not control) appears as you would enter it.
- 3) Control and Cursor keys are entered as symbols (see below)
- 4) More than one line can be used; no continuation symbols are needed.
- 5) Naked spaces are **not** interpreted and can be used for clarity.

Here's a list of the symbols allowed in a macro file:

Note: The fancy brackets {} are required.

{ }	.....	True SPACE (because naked spaces are ignored)
{Up}	.....	Cursor Up
{Down}	.....	Cursor Down
{Left}	.....	Cursor Left
{LWord}	.....	Cursor Left, 1 Word
{Right}	.....	Cursor Right
{RWord}	.....	Cursor Right, 1 Word
{PgUp}	.....	Cursor Page Up
{PgDn}	.....	Cursor Page Down
{Home}	.....	Cursor Home
{End}	.....	Cursor End
{Esc}	.....	Escape Key
{CR}	.....	Enter Key
{Tab}	.....	TAB Key
{BS}	.....	BackSpace Key
{DelHom}	.....	Same as Ctrl-Home (eg, del text to start of field)
{DelEnd}	.....	Same as Ctrol-End (eg, del text to end of field)
{Del}	.....	Same as DEL Key

{Ins} Same as INS key (eg, insert space in a text field)

Appendix III - Macros (cont)

{Ctl-c} Where 'c' is A-Z. Use for unlisted Ctl-Keys.
{Rem} Ignore rest of line, treating it as a remark.
{Stop} For Testing: Terminates macro. Not usually needed.
{###} Pause for ###/10 seconds (0-255). Eg, {30} = 3 Secs.
All Else All other non-space chars are taken, as is.

For Example, the following macro would clear the opening parameter screen, invoke the UserMgr, request a user L)ist of A)ll records, then jump to the end of the list. If this macro were called MACRO.L, then you would run with the "-[L" switch. Note the use of spaces and {Rem} for clarity and for adding annotations.

{Cr}	{Rem} Clear parameter screen
ULA{End}	{Rem} U)ser L)ist A)ll

Notes:

- 1) This feature is not intended to be a full macro facility but only as a replacement for DOS redirection with a few added features.
- 2) Since the "-]a" command stores all keystrokes used during an entire program's run (right up to and including the final exit commands), such an unedited macro, would mimic the entire session, returning you back to DOS. To quickly create a macro that will perform a series of Oman commands and then just stop at some point within the execution sequence, you can use the -] switch to record a run session that does what you want. Then edit the macro to truncate it at the point you want it to stop.
- 3) You don't need to use the -] switch if you know what keystrokes you want in a macro. Just create a text file with your editor and call it MACRO.a where 'a' is a letter of your choice.
- 4) When the end of a macro is reached, manual input resumes.

Appendix III - Macros (cont)

- 5) Beware of cases where a string you want to input contains a text fragment that is the same as a macro symbol. The macro interpreter will take it to be the macro symbol.

There is no easy way to avoid this type of (rare) conflict. If you do have to enter such a conflicting piece of text, you could use the trick of first entering a non-conflicting part of it, then a {Left}, then a {Right}, then the rest.

Eg, to enter the true text of {Rem} into a string field, you could use the sequence of "{{Left}{Right}Rem}". The first "{" would be entered as is since no symbol match would be found. The cursor movements break up the string but do nothing else. The final "Rem}" is would also be entered as is since it would not match any symbol.

- 6) Related to Note 5, beware that the RECORD macro switch "-]m" will record all true text entry without any check as to whether that text happens to be the same as a macro command. Eg, if you entered the text "{CR}" into a field, manually, the keystrokes would be stored just as that and, upon playback, would be taken to be the "{CR}" macro, not as the actual text.

Appendix IV - User City Preening Rules

Like most external Oman control files, the rule file consists of a series of text lines that have commands on them. The semi-colon indicates the beginning of a comment and blank lines are ignored. Like blank lines, any line beginning with a semi-colon is completely ignored.

The basic (and most common) command is that of string replacement and is formed simply by entering two strings which specify the text to match and the text to replace the matched text with. However, there are a number of other commands which used identified by special values in the first argument. (More on this in a moment)

When you want to include one or more spaces within an argument, you can enclose it within quotes using either the single or double quote mark. Whichever one you use to open the quote must be used to close it. This allows you to include the unused quote character within the overall quote.

All rules are applied, in sequence, so each one will be applied to the result of any and all previous rules - not to the original text. This can be a little confusing but is very powerful once you get the hang of it.

Each rule is applied to the C)ity text only ONCE! This is to prevent the mess that would otherwise be created when you attempt replace text with the same text that you are replacing, causing logic looping. Even if looping were checked, you would loose control of the edit action in cases where there might be more than one valid occurrence of a piece of text as in the cases of "New York, New York" or "Quebec City, Quebec".

In those cases where you do want to screen out multiple occurrences of punctuation characters such as those you get from line noise, then you should use the {SUB} command (see below) to erase them or to replace them with spaces for subsequent trimming.

Here's some examples of the preener's basic text replacement statement. It has no prefacing verb and is comprised of two arguments; the target text and its replacement:

```
;  
; Example of simple text replacements using just the  
; the basic text replacement command form. Note: Quotes are  
; optional and only required when enclosing spaces or the  
; other (unused) quote character.  
;  
Pq      Que      ; Replace "Pq" with "Que"  
"Texas" Tx        ; Replace "Texas" with "Tx"  
.       " "      ; Replace a period with a space  
" "     ", "     ; Replace space with ", "  
"'"     " "      ; Replace single-quote with a space
```


Appendix IV - User City Preening (cont)

The variance in the above quoting methods is for illustration only. Typically, one would employ a more constant method of quoting for clarity and simplicity except where required for special cases.

If the target text has the vertical bar (|) as its first or last character (both are allowed), then the target text is only matched when it is at the beginning or end of the C)ity field, respectively. This allows you to trim specific leading or trailing characters or text.

```
" , |"      ""      ; Trim off any trailing comma  
"|Vsl"     "Lasalle" ; Replace only leading cases of "Vsl".
```

The other preening commands are more specific and are denoted by specially reserved values in the first argument:

```
.....  
Empty Field Replacement: {0}
```

If the first argument is "{0}" and the C)ity field is empty, then the field is completely replaced by the second argument. If the C)ity field is not empty, then this command has no effect. This handles those cases where the C)ity field was not completed for some reason. You might use this command to insert your own locale in empty C)ity fields on the assumption that most callers are usually local.

```
"{0}" "Montreal, Que" ; If empty, substitute "Montreal, Que"
```

```
.....  
Single Word Appendage: {1}
```

If the first argument is "{1}" and the C)ity field has only one word in it, then the second argument is appended to the field. If the field is empty or seems to have more than one word (as indicated by the presence of one or more spaces), then this command has no effect. You might use this command to add your state or province on the assumption that most callers, if only entering one word for their locale, have probably entered just their city.

```
"{1}" " , Que"      ; If 1 word, append " , Que"
```

```
.....  
Trim Blanks: {TRIM}
```

If the first argument is "{TRIM}" then the C)ity field is trimmed of all leading and trailing blanks. Further, all occurrences of embedded series of multiple blanks are reduced to single one. This command should probably be used more than once in your rules file, at various points, to clean up any spurious effects of the preceding edit rules.

```
{TRIM}      ; Trim leading and trailing blanks
```

; and reduce embedded multiples.

Appendix IV - User City Preening (cont)

.....
Multiple Character Substitution: {SUB} "characters" "c"

If the first argument is "{SUB}" then all occurrences of each character in the second argument are replaced by the single character in the third argument. If the third argument is empty ("") then any matching target characters are removed from the field; not replaced. If none of the target characters are found, then this command has no effect. The following example shows how to replace most punctuation with a space using the {SUB} command:

```
{SUB}  " !@#$%^&*()_+ -= ~`{ } [ : ' ; \ | < > ? / , . " " "
```

If you also want to replace the double-quote mark, then use the single-quote to enclose the target string. If you want to replace both quote characters, then use two {SUB} commands; each using one of the quote types:

```
{SUB}  "'0123456789' " " ; Replace digits and double quote
```

```
{SUB}  "'ZYX" " " ; Replace Z, Y, X, and single quote
```


Appendix IV - User City Preening (cont)

Here's my own rules file which nicely cleans up about 85% of the C)ity fields in my own user database in the same way as I would have manually edited them. Use it as a guide for your own experimentation. You'll probably find better and shorter methods than those exemplified here!

```

;
; List of text fragments that, when found in the CITY field, are
; to be replaced with the second word or phrase
;
;                               ; Blank out all garbage characters

{SUB}  "!@#$$%^&* ()_+=~`{ }][: '\ | <> ? / , . " " "
'"'    " "                               ; Use simple substitution to replace
; double quotes with space. Enclose
; the double quote mark with single one.

{TRIM}                               ; Trim spaces and reduce embedded ones.

{0}  "Montreal, Que"                   ; If empty, assume to be our home locale.

Pq"    "Que"                            ; Fix up common location abbreviations
"Qc"    "Que"                            ;
"Quebec" "Que"                            ;
"Mtl"    "Montreal"                       ;
"Saint " "St-"                            ;
"Saint-" "St-"                            ;
"Saint_" "St-"                            ;
"Sainte " "Ste-"                          ;
"Sainte-" "Ste-"                          ;
"Sainte_" "Ste-"                          ;
"Vls"    "Lasalle"                        ;
"Vsl"    "St-Laurent"                     ;
"Pat"    "Pte-Trembles"                   ;
"Rdp"    "Riv-Prairie"                   ;
"DDO"    "Dollard"                        ;
"NDG"    "Montreal"                       ;
"|Quebec" "Quebec City"                   ; -'

"."     " "                               ; No periods, replace with space
" "     ", "                             ; Always Add comma
", "    ", "                             ; Add space after any existing comma
" , "   ", "                             ; Now, fix spaced out commas
", , "  ", "                             ; Remove any multiple commas from above

{TRIM}                               ; Safety. Probably superfluous

{1}     ", Que"                           ; Do near end to catch above fix ups
{TRIM}   ; Catch-All trim up
", |"    ""                               ; Remove any residual trailing commas

```

Don't let the complexity of the above example mislead you. It is a quick and dirty example which I threw together quickly and probably has many superfluous or even contradictory statements. I am sure

you can do better with a little practice.

Appendix V - Modem Ring Watch

RingMode BEEP is a feature that can be set to monitor the modem on COM1 or COM2 for a RING signal and BEEP the speaker each time an incoming RING signal is detected. This is useful when you plan to work in the program for long periods of time and want to know when there is an incoming call so you can exit and run your BBS or netmail software to handle it.

This mode has a variation called "RingMode EXIT" which, in addition to beeping the speaker, will also immediately exit to DOS when a ring is detected. The EXIT mode is only usable while in program functions that are completely passive in nature since an immediate while doing some active maintenance could be quite harmful. At the present time, only the new Caller Status display supports RingMode Exit.

The EXIT mode is useful when you have locally shelled out of (or batched from) another program like Opus or BinkleyTerm to run the Caller Status screen and you want to leave it running until a call comes in. In that scenario, when the modem rings, the Caller Info function will detect it, ring the bell, and exit to DOS, returning to run Opus or Binkley so they can service the call.

.....
Ring Mode Operations

The setting of the ring mode feature has been changed, slightly, to fixed some confusion over how to set the comm port that is monitored for incoming rings. Previously, COM1/COM2 were specified as 0/1. Now, they are specified, more intuitively, as 1 and 2.

The command line switch to set the RingMode is ...

```
-Y{B|X}{1|2}  
... B=Beep, X=Exit, #:1=COM1, 2=COM2
```

Eg:

- YB1 Monitor RING on COM1, BEEP Only
- YX2 Monitor RING on COM2, BEEP and EXIT!

.....
The equivalent configuration file statement is ...

```
RING {BEEP|EXIT} {1|2}  
... BEEP=Beep on Ring, EXIT=Exit on Ring  
   1=Detect ring on COM1, 2=Detect ring on COM2
```

Eg:

RING BEEP 1 Monitor RING on COM1, BEEP Only

RING EXIT 2 Monitor RING on COM2, BEEP and EXIT!

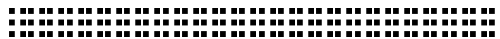
Appendix V - Modem Ring Watch (cont)

Notes on RingMode:

1. This feature requires that you have a FOSSIL interface installed - as you would if using Opus or Binkley. If none is detected and RingMode is enabled, then the program will issue warning, refuse to run, and exit to DOS.
2. The port monitored by the RingMode will almost always be the same one you use for your Opus or BinkleyTerm connections but you can choose another if you can find a reason to do so.
3. At the present time, only the Caller Info screen supports the RingMode of EXIT. If that mode is set but you are in another function that does not recognize it, it will be as if you had RingMode set to BEEP.
4. If the software you usually leave running to answer the modem has frequent scheduled exits to perform routine maintenance, you shouldn't leave things like the Caller Status screen running too long or you might miss an important scheduled event. Also, in such cases, if you have RingMode EXIT set to quickly answer the modem, it might not work if there is a scheduled event that is due. Opus and BinkletTerm will perform the event before answering the modem.

Advanced Users: If your modem software allows the passing of the time remaining (to the next event), you might want to try passing this value to Oman using Oman's -R parameter. That will cause Oman to exit when the next event is due. However, you should use such a method only when running a passive feature like the Caller Status screen to avoid an unwanted exit in the middle of important maintenance work.

Eg, using whatever means necessary, you might invoke Oman with the command line of "OMAN -Rn -XC" where 'n' is the time remaining as filled in my the calling software.



MEMORY USAGE

Oman can use up to 300k of memory when heavily used with very active systems and DOS doesn't handle running out of memory very gracefully. Oman tries its best to catch memory run out conditions but, still, under extreme load in tight memory layouts, it is possible to crash it if you try hard enough.

MULTITASKING

When using utilities like Oman that significantly alter the Opus operating environment in a multi-tasking scenario, you are playing with fire. You have to use your head and have to take into consideration the vagaries and peculiarities of the multi-tasker that you are using.

For instance, when running out of memory in an M/T environment (easy to do when splitting up memory between multiple tasks) not only will DOS be ungracious, so will most multitasking software.


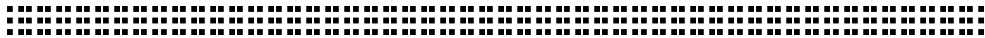
More importantly, though, when you are running Oman in one partition while one or more Opus programs are running in another, you MUST carefully contemplate the consequences. For instance, sorting or packing the user file while a user is on-line will, most likely, destroy your user files for obvious reasons.

Modifying the outbound hold area while a mail operation is taking place can cause equal damage. Likewise, altering Area data while an Opus is running can cause destructive synchronization problems.

Just keep in mind that a multi-tasker will allow all partitions to do anything they want with the disk without any arbitration between the partitions.

Merging of File Lists

Whenever a merge of file attach lists is triggered by such things as address or handling changes, there is no check on duplicate files that may result when the original list and the merged list both contain the same file name. The resulting file will then contain the exact sum of the original two file lists, one after the other. For the time being if you see that happen, you can correct the listed "xxxxxxxx.?LO" file with your text editor.

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--

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