

MALT  
MORE ALT-KEYS FOR THE PERFECTS

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## USER REFERENCE GUIDE

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## INTRODUCTION

MALT (More Alt-Keys for the Perfects) is a memory resident utility (TSR) that adds 90 new keys to the number of keys recognized by WordPerfect for the purpose of running Alt-like macros. To avoid conflicts with other TSRs, MALT does not rely on the traditional shift keys (Shift/Alt/Ctrl). Instead, MALT uses the CapsLock key as an auxiliary shift key. MALT uses a mere 512 bytes of RAM, can be unloaded from memory, and does not interfere with the normal operation of CapsLock.

MALT also offers a library feature. A number of sub-macros may be combined in one library macro called MALTLIB.WPM. Any of the macros in the library can be accessed by using the key combination ScrollLock + key, thereby effectively adding an additional 90 keys to play back macros.

MALT works with WordPerfect 4.2, 5.0 and 5.1, LetterPerfect, and should work with the other Perfects too. It is compatible with WordPerfect Office Shell and WordPerfect's Repeat Performance. MALT should be particularly helpful for LetterPerfect users (LP does not have a configurable keyboard), and anyone else with a shortage of keys, including notebook users and those without an enhanced keyboard.

Because you are probably eager to learn how to use MALT, I shall have only a few words to say about registration at the beginning of this document. MALT is user supported software. It is not public domain. In brief, if you are using MALT for personal use, I need you to register your copy. More information concerning registration and licensing may be found at the end of this document in the section entitled "REGISTRATION/ LICENSE/ COPYRIGHT".

## MALT-KEYS

Veteran WordPerfect users should feel at home with the choice of CapsLock as an auxiliary shift key, since, on an enhanced keyboard, it is located in the same position that the Ctrl key used to occupy. MALT-keys operate in an analogous manner to Alt-keys. To define a MALT-key macro first press **Macro Define** (Ctrl-F10), then hold down CapsLock and press the key to be defined. For example, to define MALTP, hold down CapsLock and press P. Enter a brief description or press **Enter** to define the macro without a description. Type the keystrokes you wish to record then press **Macro Define** (Ctrl-F10) to end defining the macro.

MALT also has a *Quick Define* feature. To use *Quick Define*, hold down

the Shift key and the CapsLock key simultaneously, then press the key you wish to define. For example, to *Quick Define* MALTF12, hold down Shift and CapsLock together, then press F12. You still must press **Macro Define** (Ctrl-F10) to end macro definition. To go directly into the macro editing window without recording, press **Home** before pressing *Quick Define*. Please read the section entitled "Compatibility and Keyboard Peculiarities", if you encounter any difficulties with the *Quick Define* feature.

Running a MALT-key macro is as easy as running an Alt-key macro: simply hold down CapsLock and press a key. MALT will then tell WordPerfect to run a macro with the name "MALT" plus the corresponding key name. Thus, holding down CapsLock and pressing P will cause WordPerfect to run the macro MALTP.WPM, just as holding down Alt and P will run ALTP.WPM.

Note: For the sake of convenience, this document refers to macros as having a "WPM" extension. Macros in LetterPerfect, of course, have an "LPM" extension, those in ED have an "EDM" extension, and so forth. Similarly, discussions about WordPerfect apply equally to LetterPerfect and the other Perfects. As a corollary to this, bear in mind that you need load only one copy of MALT if you switch between WordPerfect and one of the other Perfects. While you are in WordPerfect, MALT will work with "WPM" macros in your macro/keyboard directory. Should you switch to LetterPerfect, MALT will work with "LPM" macros in that program's keyboard/macro directory. The same should hold true for the other Perfects. The only proviso is that each program should be configured with the same **Macro Execute** and **Macro Define** keys. Finally, although MALT functions harmoniously with WPCorp programs running under WordPerfect Office Shell, it cannot be used to define or execute Shell macros.

Unlike Alt-keys, MALT-keys are not restricted to the letters of the alphabet. A MALT-key can be assigned to almost any key. Accordingly, space (MALTSP.WPM), insert (MALTIN.WPM), left (MALTLE.WPM), and en left (MALTLE.WPM), are all perfectly acceptable MALT-keys. (The only exceptions are the obvious ones, shift keys, Num and Scroll Lock, Print Screen and Pause.) This will add 90 new keys to an enhanced keyboard; 75 keys to a PC keyboard. Notice that MALT uses abbreviations for non-alphanumeric keys. A list of these abbreviations is included as an Appendix to this document.

Existing macros may be converted to MALT-key macros by renaming them. For instance, if you have a macro called HEADER.WPM, you may convert it to MALT-H by renaming the macro file to MALTH.WPM. Remember, MALT-key macros must be in your keyboard/macro directory. For a complete list of possible MALT-key file names, please see the Appendix.

You should also be aware that in one small respect MALT-keys are not as capable as Alt-keys. The CapsLock key must be released before running another MALT-key. In contrast, you may hold down the Alt-key and press a key several times in order to run a series of macros or one macro several times. Most users will not find this a serious inconvenience. As a partial remedy, remember that, like any other macro, a MALT-key macro can be repeated by pressing the ESCape key to input a repeat number, and then pressing the appropriate MALT-key.

MALT does not interfere with the normal operation of CapsLock, and with each use of a MALT-key, CapsLock is restored to its prior state. Thus if CapsLock was off when you pressed the MALT-key, it will stay off; if it was on, it will stay on.

#### LIBRARY FEATURE

MALT's library feature permits you to assemble up to 90 sub-macros in one comprehensive macro called MALTLIB.WPM. Any of the sub-macros in MALTLIB can be accessed with a single keystroke, using ScrollLock + key. Among the advantages of a library macro are the conservation of disk space and the capacity for sharing subroutines among sub-macros.

The library feature can best be explained by comparison to the more conventional menu macros. A menu macro solicits the user to press one or more keys, then takes an action based on user input. Typically, using a menu macro involves at least two steps: calling the macro, then pressing one or more keys to select a choice offered by the menu. MALT's library feature automates this process. Pressing ScrollLock + key causes MALT to call MALTLIB.WPM and to execute one of the sub-macros in the library based on the key pressed with ScrollLock. Thus, pressing ScrollLock + C causes MALT to call MALTLIB.WPM and to execute choice "C"--all with one key stroke.

Preparing a library macro requires only a rudimentary knowledge of macro programming. (Anyone desiring to learn more about macro programming will want to consult Gordon McComb's fine book *WordPerfect 5.1 Macros and Templates--a PC Magazine Editor's Choice*.) By referring to the accompanying sample library macro, and by observing the following simple rules, most macro users should not have any difficulty in creating a library macro.

The library macro must be named MALTLIB.WPM and should be

located in the same directory as your other macros.

The library macro must begin with a {TEXT} command. (Note: Global macro instructions such as {ON ERROR} may precede the {TEXT} command. An example of this is shown in the sample library.)

The {TEXT} command has two parts. The first part is the name of a variable; the second is an optional message. With WordPerfect 5.0 the variable name must be a number between 1 and 9. In 5.1, the variable name may be any combination of letters. In the accompanying sample library macro, the variable is given the name "KeyName".

When a library macro is executed using ScrollLock + key, the name of the key is assigned to the variable named in the {TEXT} command. Thus, if you press ScrollLock + "C", the variable KeyName will equal "C". Press ScrollLock + F6, and the variable KeyName will equal "F6".

The {TEXT} command must be followed by a {CALL} or {GO} command in the following form:

{CALL}{VARIABLE}KeyName~~

or

{GO}{VARIABLE}KeyName~~

where KeyName is the name of the variable assigned in {TEXT} command. (Note: If the call command is used, it should be followed by a {RETURN} or {QUIT} to indicate termination of macro execution.)

Each of the sub-macros must be preceded a {LABEL} command followed by the name of the key associated with the sub-macro. The label names must follow the naming conventions for keys set forth in the Appendix. For example, the sub-macro associated with the "C" key would be preceded by the command {LABEL}C~. Likewise, the sub-macro associated with F6 would be preceded by the command {LABEL}F6~. You do not need labels for keys that you do not intend to use.

Let us suppose you have a simple macro that appends blocked text to WordPerfect's temporary buffer. The macro looks like this:

**{Move}ba{Enter}**

You would like to incorporate this macro in your library for use with the **en-Insert** key (i.e. the **Insert** key on the enhanced keyboard cursor pad).

First, you consult the appendix to find that the abbreviation for **en-Insert** is XIN. Thus the label for the sub-macro will be **{LABEL}XIN~**. The entire sub-macro will read:

**{LABEL}XIN~  
{Move}ba{Enter}  
{RETURN}**

Each sub-macro must end with a command that terminates macro execution, such as **{QUIT}** or **{RETURN}**. Advanced users will prefer **{RETURN}**, because it permits a sub-macro to be called by another sub-macro.

Here is a thumbnail sketch of what happens when you execute a MALTLIB macro using ScrollLock + key. First, MALT tells WordPerfect to execute the macro called MALTLIB. MALT then sends the name of the key, followed by a carriage return, to the MALTLIB macro. The key name is assigned to a variable by the **{TEXT}** command. Now, the **{CALL}** or **{GO}** command tells WordPerfect to continue macro execution at the **{LABEL}** associated with the key name. The sub-macro at the **{LABEL}** will execute until it is told to terminate by **{RETURN}**, **{QUIT}**, or other command to terminate macro execution.

The easiest way to create a library macro is with my program MPE4WP (Macro Programming Environment for WordPerfect). MPE4WP is an enhanced substitute for the WordPerfect macro editor that allows you to create and edit macros at the full WordPerfect editing screen, using all the advanced editing features offered by WordPerfect. MPE4WP includes a program (M2T) that converts macros to text format. Since M2T accepts wild cards, you can convert a number of existing macros to text in one operation. It is then a simple task to assemble the text files at the WordPerfect editing screen into a library source file. Once the macro source files have been assembled, you convert them back to macro format using MC, another program included with MPE4WP. Both MC and M2T are extremely fast and can be used without ever

leaving WordPerfect. Finally, MPE4WP includes a series of macros that emulate and improve upon the features in the Macro Editor, including a macro that lets you record and edit macro source files in one operation.

To try out the sample library macro included with this package, simply copy it to the same directory as your other macros. The sample is intended to illustrate the structure of a library macro. Many of the sub-macros could just as well be mapped to keyboard file. One of MALT's virtues, however, is independence from keyboard files. The Memorandum sub-macro (ScrollLock + M) is more ambitious than the other examples and demonstrates how one sub-macro can share routines with other sub-macros. The sample library macro also contains a number of comments for purposes of explanation. It may be desirable to limit comments in your library macro, in order to minimize macro size.

The sample library macro contains the following sub-macros:

C

–

Page

Center justify

D



–

Page

Define paragraph numbering

H

—

Page

Make header

|

–

Page

Italics

K

–

Page

Change case

L

—

Page

Left/Right Margins

M

—

Page

Memorandum (Modify to include your own name in the from field)

R

—

Page

Flush right

S

–

Page

Set tabs  
T



–

Page

Top/Bottom margins

V

—

Page

[View document \(Preview\)](#)

Z

—

Page

Paper size  
F6

—

Page

**Bold/Underline**

**1 - 4**

—

Page

Paragraph numbering (levels 1 to 4)  
CR

—

Page

Line leading  
RT  
XRT

—

Page

Advance right

LE

XLE

—

Page

Advance left

UP

XUP



—

Page

Advance up  
DO  
XDO

—  
Advance down

In the interest of candor, it is worth acknowledging that ScrollLock is not the most felicitous choice for a shift key. I apologize. Unfortunately, the other choices are either worse, or more or less in use. Incidentally, by its nature the library feature is not amenable to a *Quick Define* operation. Those who manage to press ScrollLock, Shift, and a third key all together will find the effort unavailing.

### LOADING AND UNLOADING MALT

MALT must be loaded into memory before you run WordPerfect. If you run WordPerfect or another program in the Perfect family from WordPerfect Office Shell, then MALT must be loaded before Shell. To load MALT into memory type **MALT** at the command line. If MALT is not on your path or in the default directory, you must include the full path name. MALT then becomes memory resident for use in conjunction with WordPerfect or other members of the Perfect family that are loaded afterwards. MALT will refuse to load a second copy of itself, if it finds that it has previously been loaded into memory.

Unloading MALT is equally simple. To unload MALT from memory type **MALT /U**. If you have loaded any TSRs after MALT, be sure to unload them first. Since MALT utilizes such a small amount of memory, you may not wish to go to the trouble of unloading it.

The most practical way to load and unload MALT is with a batch file that also starts WordPerfect. A simple batch file would look like this:

```
MALT
WP
MALT /U
```

Similarly, if you start WordPerfect from your AUTOEXEC.BAT file, you should edit the lines immediately before and after the line that starts WordPerfect in accordance with the preceding instructions. A simple AUTOEXEC.BAT file might look like this:

```
PROMPT $p$g
PATH C:\DOS;C:\WP;C:\UTILITY
MALT
WP
```

## MALT /U

Of course, you will add full path names if MALT is not on your path. Incidentally, MALT releases its copy of the environment, so it does not matter where in your batch file you place commands that go into the environment.

On a 386SX, 386DX or 486 computer with an appropriate memory manager, such as QEMM, DR DOS's MemoryMAX, or DOS 5.0's HIMEM.SYS and EMM386.EXE, MALT may also be loaded high using the appropriate LOADHI command. DesqView users may find it makes sense to load MALT in high memory before running DesqView. Since MALT's memory requirements are so slight, this will probably result in a net memory savings. Alternatively, MALT may also be loaded in a batch file that also loads WordPerfect in a DesqView window.

## CONFIGURING MALT

In order for MALT to work properly, it must know what keys you are using for the **Macro Execute** or **Macro Define** functions. If you have not remapped these two keys from their respective default assignments of Alt-F10 and Ctrl-F10 you do not need to read this section, and you do not need to configure MALT.

If you have changed the **Macro Execute** key from Alt-F10, or if you have changed the **Macro Define** key from Ctrl-F10, you must use the MALTCFG program to configure MALT. To run the configuration program, type **MALTCFG** at the command line. To force MALTCFG to run in monochrome, type **MALTCFG /M**. It really is not necessary to read this section to run MALTCFG, since the program is self-explanatory.

MALTCFG first looks in its own directory, then in the default directory (if the two are different), for a copy of MALT.COM. It will then verify that the copy of MALT.COM it has found is the correct version. MALTCFG will not recognize MALT.COM if it has been compressed by PKLite, LZE or a similar utility. MALT.COM may be compressed, however, *after* it has been configured. (Note: MALT is now so small that PKLite will not compress it. Moreover, on a standard hard disk, there would be no benefit to compression, because MALT uses only one cluster.) If the configuration program cannot find MALT.COM, you will be given an opportunity to tell MALTCFG where you have hidden it away. Likewise, MALTCFG will permit you to configure a copy of MALT.COM in a different directory.

MALTCFG will next ask you for the appropriate key assignments for the **Macro Execute** or **Macro Define** functions. Simply press the appropriate key then press **Enter** to confirm each choice. MALTCFG recognizes the same keys as WordPerfect in the same manner as WordPerfect, so if you press an unrecognized key like Ctrl-3 or Ctrl-/, nothing will happen. Similarly, pressing Ctrl-Space is recognized as Space, the same as it is in WordPerfect. MALTCFG will query you, if it questions the propriety of one of your choices.

After you have confirmed your choices are correct, MALTCFG will configure a new copy of MALT.COM. The old copy of MALT.COM will be renamed MALT.CO!. Since the same copy of MALT.COM may be re-configured any number of times, you may safely delete MALT.CO!. That's all there is to it.

#### OTHER USES FOR MALT

A thoughtful user has pointed out to me that MALT can also be used at the DOS command line to run batch files. Suppose, for example, that you have a batch file called BACK.BAT for backing up new files. You could rename the file MALTB.BAT. Pressing MALT-B at the DOS command line would now instantly cause MALTB.BAT to execute. You should be aware, however, that MALT may not recognize all the keys on the enhanced keyboard while at the command line. Thus, MALT may not recognize F11 and F12, or distinguish between the keys on the cursor pad and their counterparts on the numeric keypad.

#### USING MALT WITH MPE4WP

If you are writing macros of any length or complexity, you are, or should be, using my program MPE4WP. To use MPE4WP with MALT, you need only rename the file macros that are distributed with the program. For example, {CREATE}.WPM would be renamed MALTC.WPM. Pressing MALT-C (CapsLock and C) will now run the *Create* macro.

In MPE4WP, version 1.1 and later, the following macros exist only as key macros and must first be saved as conventional file macros before they can be assigned MALT-keys:

Ctrl-Num *	{KEY MACRO 1}	Clear Prompt
Ctrl-D	{KEY MACRO 3}	Delete
Ctrl-G	{KEY MACRO 4}	Save Generic

Ctrl-H	{KEY MACRO 5}	Help
Ctrl-P	{KEY MACRO 8}	Playback

As an example, to save the *Delete* macro as MALT-D, (1) press **Setup** (Shift-F1), (2) select **5 - Keyboard Layout**, (3) highlight MPE4WP or MPE4WP-I and select **7 - Edit**, (4) highlight Ctrl-D and press **6 Save**, (5) WordPerfect will prompt you **Define macro:**, (6) type MALTD and press **Enter**. Follow this procedure for each of the other four macros. Please note that, although *Clear Prompt* is assigned to Ctrl-PrintScreen in MPE4WP, it may **not** be assigned to the PrintScreen key for use in conjunction with MALT.

#### COMPATIBILITY AND KEYBOARD PECULIARITIES

MALT has been tested on IBM-compatible systems under DR DOS 6.0 (the better DOS), MS-DOS/PC-DOS versions 3.x and 5.0, QEMM 6.0 (with Stealth type M enabled) and DesqView, version 2.4. If MALT does not operate as described, the most likely explanation is a TSR conflict. MALT should be compatible with other TSRs because it uses a different hot key arrangement and because it does not trap interrupt 9. My experience has verified this, although it is impossible for me to have tested it with all TSRs. Please let me know if you encounter any difficulties.

The standard advice when encountering TSR conflicts is first to unload all TSRs, then load MALT to determine if it works by itself. If so, the problem is a TSR conflict. To try and isolate the offender, re-load the other TSRs one at a time. The other advice for remedying TSR conflicts is to try changing the order in which the programs are loaded. Since MALT only works with WordPerfect (and other members of the WPCorp family), it makes sense to load it immediately before loading WordPerfect (or the other program) so it can be unloaded immediately after you exit the WPCorp program. But MALT really does not care where it is loaded, so long as it is loaded before the WPCorp program and Shell (if you use Shell). If you spend most of your day in WordPerfect, you probably do not care where you load MALT.

Another type of compatibility problem may arise with certain keyboards. Most programs that manipulate the keyboard warn about the Tandy keyboard. Not having access to a Tandy keyboard, I cannot verify whether there is an incompatibility with MALT.

I am aware of one incompatibility that may arise when using the *Quick Define* feature. My Northgate keyboard does not recognize certain keystrokes when more than one than shift key is held down simultaneously.

For example, it recognizes CapsLock-Shift-T and CapsLock-Shift-I, but not CapsLock-Shift-Y or CapsLock-Shift-U. (Incidentally, this anomaly is not unique to CapsLock, but also occurs with other shift key pairs.) If you encounter this problem, use the old fashioned way of defining macros: first press **Macro Define** (Ctrl-F10) then press the MALT-key, e.g. CapsLock-Y. This problem is a failing of the keyboard and can not be remedied by MALT or any other program.

MALT always restores each of CapsLock and ScrollLock to the same state it was before you hit a MALT-key or MALTLIB-key, but in certain circumstances you might believe MALT has erred. For example, if you have a PC keyboard with a CapsLock light, the light may change even though CapsLock is set correctly. (This idiosyncrasy does not generally occur with enhanced keyboards.) If you check the "pos" on the WordPerfect status line, however, you can verify the correct state of CapsLock. If CapsLock is off, "pos" is lower-case; if CapsLock is on "POS" will be upper-case. Another peculiarity occurs in WordPerfect 5.0. If you accidentally hit a MALT-key for which a macro has not been defined in WordPerfect 5.0, "pos" will switch from lower to upper, or from upper to lower, as the case may be, and will not switch back until the next time you hit **Enter**. Notwithstanding these oddities and indications to the contrary, it bears repeating that MALT will always properly reset CapsLock and ScrollLock to their prior states.

If you use a memory map utility to determine how MALT is loaded into memory, do not be concerned if you find that MALT is listed as unknown. This happens because MALT, like a good citizen, releases its copy of the environment.

#### PROGRAM NOTES

Beginning with version 1.3, MALT is written entirely in assembly language. MALTCFG is written in Microsoft Professional Development System (PDS) BASIC 7.10, using routines contained in Crescent Software's QuickPak Professional, and linked with Crescent's P.D.Q.

I drew on a number of reference sources detailing the operation of the keyboard and the ROM BIOS in connection with the preparation of MALT and MALTCFG. Of these, by far the most instructive was the article by Michael J. Mefford entitled "An In-depth Exploration of the PC Keyboard and its Interrupt Service Routines", which appeared in the May 1990 issue of *Microsoft Systems Journal* (Volume 5, Number 3). His method for detecting the presence of an enhanced keyboard is incorporated in MALTCFG. Also very

useful were the pair of articles by Barry Simon (someone for whom I have a deep admiration because of his work on CTRLALT and STACKEY) entitled "Learning Your Way Around the Keyboard under DOS", which appeared in the December 25, 1990 and January 15, 1991 issues of *PC Magazine* (Volume 9, Number 22 and Volume 10, Number 1). His program BIOSDATA, which was distributed with the articles, was especially helpful in deciphering the operation of the PC keyboard BIOS.

Two other informative resources were *DOS Programmer's Reference (2nd Edition)*, by Terry Dettmann and Jim Kyle, and *The New Peter Norton Programmer's Guide to the IBM PC & PS/2*, by Peter Norton and Richard Wilton. I also referred frequently to *Advanced MS-DOS Programming (Second Edition)*, by Ray Duncan, but not for keyboard information.

Surprisingly, only the Norton book contained even a partial list of the codes generated by the ROM BIOS for legal keys on the enhanced keyboard. To remedy this deficiency, I have prepared a program called SCANASC for use by the programming community (or anyone else who happens to be curious). SCANASC reports the scan and ASCII codes for all keys interpreted by the BIOS keyboard services in hex and decimal and identifies whether the key is available only on the enhanced keyboard. SCANASC will optionally prepare a customized list of the values for all keys pressed during a session for later reference. There is no charge for the program and it is available in the Programming Forum of PCMagnet where it is called SCANAS.ZIP. (Notice the absence of the final "C" in the root name. CompuServe only permits six-letter root names.)

I am indebted to *PC Magazine*, Crescent Software, and Ethan Winer's book *BASIC Techniques and Utilities* for information that permitted the translation of MALT from BASIC to assembly language. MALT 2.0 benefitted from the insights gained by study of *Zen of Assembly Language, Volume I, Knowledge* by Michael Abrash.

#### STANDARD DISCLAIMERS

By now all personal computer users should realize that there are no warranties attached to software, except for disk errors and performance in accordance with specifications. This software is no different from any other in that respect. Accordingly, there are no warranties of merchantability or fitness for a particular purpose, nor will the author be responsible for any damages (incidental, consequential, or otherwise) in excess of the purchase price. MALT and MALTCFG have been thoroughly tested by me, and, I

believe, they will work as described. If you encounter problems, please let me know. I may be reached at the address given below or on CompuServe (ID No. 76170,1627).

#### REGISTRATION/LICENSE/COPYRIGHT

MALT is a user supported program. It is not public domain. If you are using MALT for personal use, you should pay a \$15 registration fee. MALT has deliberately been priced low to encourage registration. A combined registration for MALT and my other program MPE4WP is \$25. If you have already registered MPE4WP, you may register MALT for an additional \$10. MALT may not be used in business without a license. For information about securing a license to use MALT in business, please see the section entitled "Business Use". Registered users of MALT 1.x may upgrade to version 2 for free.

#### HOW TO REGISTER

To register MALT for personal use, please send your \$15 check or money order (\$25 for a combined registration with MPE4WP) to:

Michael H. Shacter  
7825 Marion Lane  
Bethesda, Maryland 20814-1337

In exchange, you will receive an acknowledgement and at least \$15 (or \$25) worth of satisfaction. Please note that you will not be sent a disk, only a registration number. If you absolutely must have a copy of MALT on disk, please send an additional \$10. Please (a) specify 5¼ or 3½ disk size, (b) include 5% sales tax if you are a Maryland resident, and (c) be prepared to wait 2 to 3 weeks. For your convenience a registration form is enclosed.

#### BUSINESS USE

A license is required to use MALT in business, after a reasonable trial period. Business use includes use by governmental entities, non-profit organizations, and any other use that is not strictly personal. You may obtain a license by writing to me at the above address. The license fee will depend on the number of MALT users in your business. Discounts are available for multiple copies. Please feel free to submit a reasonable proposal, including



any special requirements for customization you may have. Remember, if you are using MALT to make money, I am too, and in this respect, my expectation of a living is superior to yours.

#### OTHER RESTRICTIONS

All authorized users are granted a limited license to make copies of MALT without charge, subject to the restrictions contained elsewhere in this document as well these:

(a) MALT must be distributed in absolutely unmodified form, including MALT, MALTCFG, the sample library macro, the registration form and this documentation.

(b) For-profit use of MALT without a license is prohibited.

(c) MALT may not be included or bundled with any other product for any reason.

Not-for-profit user's groups, such as the Capital PC User Group, are permitted to charge a small fee for materials, handling, postage, and general overhead. No other organization is permitted to charge for distribution of copies of MALT.

Electronic bulletin board system operators are encouraged to post MALT on their bulletin board systems for downloading by their users, if the above conditions are met, and if no special fee is necessary to access the MALT files (a general fee to access the BBS is acceptable). Likewise, all authorized users are encouraged to upload to MALT to BBS meeting these requirements.

## APPENDIX

## NAMING MALT-KEY MACROS

MALT uses a set of abbreviations to identify non-alphanumeric MALT-keys. Most people will not care about the file names of their MALT-key macros so long as each MALT-key is consistently associated with a macro file. To assemble a library macro, however, it is essential to know key names. This appendix describes the MALT naming strategy. The abbreviations, while logical, are necessarily terse because of DOS naming conventions (only eight letters) and because of the need for MALT to conserve memory (longer names mean increased memory requirements).

Alphanumeric MALT-key macros follow the naming convention set by WordPerfect: "MALT" plus the letter or number. Thus, MALT-P is associated with the file MALTP.WPM, and, by extension, MALT-4 is associated with the file MALT4.WPM. Punctuation keys cannot be disposed of so easily because most punctuation marks are illegal in file names. For instance, MALT=.WPM would never work because the equal sign cannot be included in a file name. In general, most punctuation keys, cursor positioning keys, and function keys use a two letter abbreviation following the name MALT. For example, MALT-= is associated with the file MATLEQ.WPM and MALT-F1 with MALTF1.WPM. To distinguish between keys on the numeric keypad and identically named keys on the enhanced keyboard's cursor pad, MALT adds an "X" between "MALT" and the key name in the latter case. Accordingly, the file associated with MALT-PgDn on the numeric keypad is MALTPD.WPM and MALT-en PgDn on the enhanced keyboard is MALTXPd.WPM.

The following table lists all non-alphanumeric MALT-keys and their associated abbreviations. Keys preceded by an asterisk are only available on enhanced keyboards.

<u>KEY</u>	<u>ABBR</u>	<u>KEY</u>	<u>ABBR</u>
ESC	ES		
-	-		
=	EQ		
Backspace	BS		
Tab	TA		
[	{		
]	}		
Enter	CR		
*Num Enter	NCR		
'	'		
`	~		
\	BA		
,	CO		
.	PE		
/	SL		
*Num /	NSL		
Num *	NA		
Space	SP		
F1	F1		
F2	F2		
F3	F3		
F4	F4		
F5	F5		
F6	F6		
F7	F7		
F8	F8		
F9	F9		

F10 F0  
\*F11 F11  
\*F12 F12  
Insert IN  
Delete DE  
Home HO  
End ED  
PageUp PU  
PageDown PD  
Up UP  
Down DO  
Right RT  
Left LE  
Num - NM  
Num + NP  
\*Num 5 N5  
\*en Insert XIN  
\*en Delete XDE  
\*en Home XHO  
\*en End XED  
\*en PageUp XPU  
\*en PageDown XPD  
\*en Up XUP  
\*en Down XDO  
\*en Right XRT  
\*en Left XLE