TealMover User's Manual

Program Version 2.31
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Introduction

Description

TealMover is a full file manager utility for Palm OS, supporting both files in main memory and files on external devices using the PalmOS Virtual file system. With TealMover, you can view and edit files on your organizer, and manage memory by copying, moving, renaming, deleting, and beaming files.

Contents

This archive contains the following files:

Program files:

TEALMOVR.PRC	The TealMover utility program
TPSETUP.EXE	Easy installer program (Windows only)

Document files:

MOVRDOC.PDF	This document in Adobe Acrobat (PDF) format
MOVRDOC.HTM	This document in HTML format (sans images)
MOVRDOC.PRC	This document in TealDoc format
REGISTER.HTM	TealPoint Registration form in HTML format
REGISTER.TXT	TealPoint Registration form in text format

Installing

Use the Palm Installer in the Palm Desktop to install the program file **TEALMOVR.PRC**.

This manual is provided in this archive as the PalmPilot document **MOVRDOC.PRC**. To read it, install it using the Palm Install Tool and read it with a Palm doc reader program like **TealDoc**.

Instructions on how to use the Palm installer are in the Palm Handbook that came with your Pilot, PalmPilot, or WorkPad. You can find the install tool either as a stand-along program in your Palm install folder, in the Start Menu with the other Palm programs, or in the Palm Desktop program as an icon along the left-hand side.

On a Windows PC you can also use quick setup installer by double clicking on the **TPSETUP.EXE** installer program, and following the on screen prompts.

Chapter 1 – Overview

 TealMover is the application Palm Computing "forgot" to include with every Palm. Standard Palm organizers have the ability to beam individual programs or delete programs along with all their associated data, but cannot beam data files or delete a single data file.

In addition, with PalmOS 4.0, Palm Computing added support in the operating system for reading files and folders in external media cards and devices such as MMC and SD cards, but curiously did not provide a utility to move and manage other data stored on the cards.

Addressing both needs, TealMover supports beaming, copying and deleting of individual files and creation and management of folders on external storage devices. Additional tools even allow for manipulating invaluable properties attributes for files and manually editing databases on a record-by-record or byte-by-byte level.

 Run the TealMover application by tapping on TealMover icon in the Palm applications launcher.

Chapter 2 – Navigation

File List Screen
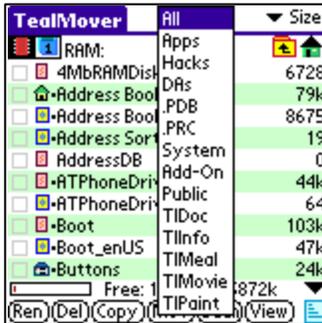
The file-listing screen lists all the files in the current category on the active device. Non-writable files in ROM (or those with their PalmOS "read-only" property set) are listed with a dot next to their names. On this screen, you can select files and folders or perform actions on selected items.

Device Selection

If an external Virtual File System (VFS) –compatible expansion device is detected, a row of icons will appear at the top of the screen to allow you to select a device or navigate folder. From left to right, these are:

Memory Selector

Shaped like a memory chip, the memory selector shows files present in main organizer memory

External Card Selectors

Shaped like a memory card, the external card selectors show files present in external memory cards and devices. TealMover supports up to four external memory cards simultaneously.

Current Directory Path

When an external device is selected, the location of the current directory is shown in the center top of the screen. The location is shown as a "path", or the sequence of folders traversed to reach the current location from the start "root" location of the card.

Parent Folder

Selecting the Parent Folder icon moves the current folder back up one level to the folder which contains the current folder. The starting "root" folder has no parent folder.

Root Folder

Shaped like a house, the Root Folder sets the current folder location to the "root" or "home" directory of the card.

File Selection and Navigation

To select a file, tap on its name or on the checkbox to the left of its name. To select a folder, tap on the checkbox next to the folder name. Tapping on the folder name itself instead shows the list of files located inside that folder.

Chapter 3 – File Filters
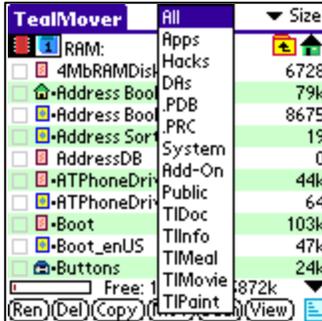
TealMover supports showing all or only a subset of the files at the current location based on the file type. These "filters" function like categories, in that you can switch views from one filter to another to see a different subset of the files.

Unlike categories, filters are based on the characteristics of the files themselves, so files cannot be manually moved from one filter view to another. The category drop down appears in the center top of the screen, and consists of eight standard filters and five customizable ones.

Standard File Filters

All
Shows all files in the current location, and is also the quickest display option

Apps
Shows standalone application programs, like TealMover or TealDoc

Hacks
Shows all system extensions, commonly called "hacks", like TealEcho or TealMagnify

DAs
Shows all Palm Desk Accessories, such as TealTools popup utilities

.PDB
Shows all Palm-database files. Note that files on external cards are differentiated as PDB or PRC based on their content, as well as their names. Sometimes, document files are incorrectly named ".PRC" even though they are Palm "database", not "resource" files, making them true ".PDB" files instead.

.PRC
Shows all Palm program and resource files. Note that files on external cards are detected as PDB or PRC based on their content, not just their name. Files in non-Palm formats may occasionally be inaccurately detected as PDB or PRC.

System
Shows files detected as created or associated with programs created by Palm Computing. PalmOS "system" files have Creator IDs in all lower case letters.

Add-On
Shows files and formats not created by Palm Computing. Non-Palm files have one or more capital letters in their Creator IDs.

Public

Public files have a Creator ID of 'PUBL' and are a proposed standard for files which are shared between applications. When files of a non-Palm type or format are copied into PalmOS RAM, they are imported as public files. A file of any type can be copied onto your Palm and will use this convention if it is not a standard PalmOS .PRC or .PDB file. See Appendix A for more information about PalmOS public files.

Custom File Filters

Five custom file filters can be modified and renamed to suit your needs. These can be edited in the program Preferences Menu (described below).

Initially, five custom filters are set to the following defaults, but you can change them to suit your needs however you like:

TealDoc
Shows all TealDoc and Generic Doc files.

TealInfo
Shows TealInfo folios.

TealMeal
Shows TealMeal restaurant databases.

TealMovie
Shows TealMovie movies

TealPaint
Shows TealPaint image databases.

Chapter 4 – Data Details Display
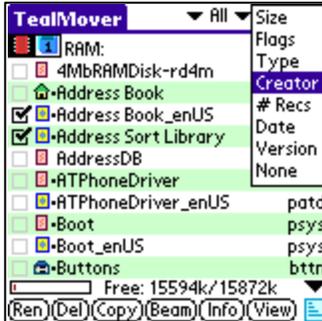
Next to each entry in the file list, TealMover shows details about the file. A detail selector pick-list appears in the upper right corner of the screen. The following details are available:

Size
Shows the size of the file in bytes (if small) or kilobytes (1024 bytes, if larger)

Flags
Shows five-letter codes showing useful attributes about the file:

B: The backup-bit for the file is set. If set while this file is in main memory, this file will be synchronized with the desktop PC each time it is changed using the default backup mechanism. Databases with custom conduit components on the PC-side (such as standard application databases) do not use the default backup mechanism.

D: The file is a database file. All palm-format files are either databases (record-based data) or resources (programs and name-based data for programs).

R: The file is in ROM. If set, the detected file is flag as being non-writable because it is either in ROM or the owning application has set the file's "read-only" bit. ROM files include operating system files and those placed into operating system flash memory using FlashPro and MemPlug. Handspring Springboard flash memory cards hook into the operating system directly, and also appear as ROM.

O: The file is current open, meaning that it is in use by another application and cannot be moved or modified.

P: The file has it's file-protection bit set to keep it from being deleted by the standard application launcher.

Type
Shows the four-letter identifying code associated with this type of file. Applications use the Type value to discern how to use a particular file.

Creator
This shows the unique four-letter identifying code for the application as registered with Palm Computing. Palm OS uses the Creator ID to identify which applications own which files.

Recs
Shows the number of data records associated with the file. A record is a chunk of contiguous memory up to 64k in size often used to hold a single unit in a collection, of individual entries.

Date

Shows the last modification date stored in a Palm-format file's header.

Version

Shows the contents of the "version" string resource, if present, indicating the version or revision of an application or library.

Chapter 5 – File Actions

TealMover supports different actions depending on the current selection. Actions appear at the bottom of the screen corresponding to the current selection. To perform an action, tap on the appropriate button after selecting one or more files or folders.

Rename

Renames a selected file or folder. Note that when renaming Palm files in external memory cards, such files also contain an internal "Palm" file name, which will be used for the file when it is copied back into main memory. This internal name cannot be changed when the file is in an external card.

Delete

Deletes a selected file or folder. **New in 2.08:** If folder is not empty, TealMover will automatically seek down the folder's subfolders and files and attempt to delete them all.

Copy

Copies or moves the selected file to another location. Files in main memory will be copied to the last-folder viewed on the external card. Files on an external card can be copied to main memory or into another folder on the same card.

When copying or moving files, the **Select Destination** window will appear, allowing you to select a device and/or folder for the file. To select a destination device, tap on its corresponding icon on the right hand side of the display. Navigate through folders (if supported) by tapping on their names or by use of the "parent" and "home" icons beneath the device selection icons.

Tap the "Copy" button to start the file copy operation, or tap on the "Folders" button to create a new subfolder in the current directory or delete the current folder.

Similar to the Copy command, the Move button deletes the source file after the copy operation. If moving a file from and to the same external device, there must be enough free space to store a temporary copy of the file.

Beam

Beams a selected file to another Palm device. Files must not currently be in use (open) by another program to be beamed. Since TealMover is "open" when inside TealMover, use the palm application launcher instead if you wish to beam TealMover to another Palm.

Send

Similar to the "Beam" command, the "Send" command is only available from the drop down menu. It allows sending selected files via Bluetooth, SMS, or similar wireless connection. Note that due to a bug in PalmOS, this option will crash if selected on some devices without the appropriate wireless hardware.

Info

The "Info" menu allows you to view or edit properties associated with a selected file. Properties shown vary according to the type and number of files selected. See Chapter 8 for full details on using **File Information**.

### *View*

A very powerful but potentially-dangerous tool, the *View* button lets you see or edit the raw contents of files on a record-by-record or byte-by-byte basis. See Chapter 10 for more info on using the View Screen.

Sort

In the lower right corner of the screen, the Sort Button allows quickly changing the current sort option from "Name" to "Details" or to and from "Unsorted".

Chapter 6 – Preferences
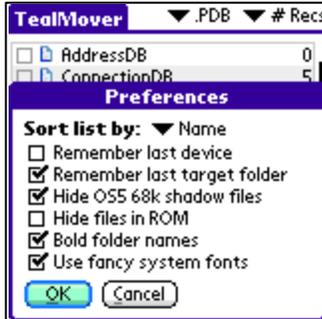
The **Preferences Menu** can be brought up with the "Preferences…" item on the drop down menu.

Sort list by

Selects how the file list is sorted:

- Name – Sorts the list alphabetically
- Details – Sorts the list by the current "details" column
- Unsorted – Leaves the list unsorted for fastest load speed

Remember last device

When set, the last device accessed (memory or card) will be saved when you exit the program and restored when you return. If not set, the list will always show files in RAM when TealMover is launched.

Remember last target folder

When set, the last destination folder is remembered between separate copy operations during the same program session. If not set, the dialog for selecting the target folder starts in the same location as the source file.

Hide OS5 68k shadow files

When set, TealMover hides the special "68k" emulation files which PalmOS creates under OS5. These files are normally created, deleted, and managed by PalmOS and should normally not be manipulated with TealMover.

Hide files in ROM

When set, files in ROM or those which manually have their "read-only" attribute set will be hidden from the file list. This option is useful when sorting through the list finding files to delete to free memory.

Bold folder names

When set, folder names are shown in a bold font. Turn this option off to make more space for instance, for Pacific Rim languages which need extra room to fit long folder names.

Use fancy system fonts

When this option is enabled, the system standard and bold fonts are replaced with new "thin" versions on high-resolution devices, giving an updated, clean appearance. Turning on the "Auto" mode enables the new fonts in most places, but keeps the older bold fonts when used in buttons for improved readability.
(New in 2.23)

Chapter 7 – Custom File Types
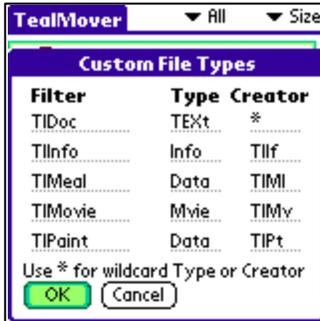
The five custom file filters can be modified and renamed using the *Custom File Types* menu.

Type and Creator

For each filter, both a Type ID and Creator ID can be specified. All Palm-format files have a four-letter Type ID and Creator ID associated with them. Files associated with a single program typically have the same Creator ID as the program, while most Type-ID's are determined by the program's developer.

Wildcards

Files to be listed with a particular filter can be restricted to those that match a Type ID, Creator ID, or both. To specify a value that matches all files in either the Type ID or Creator ID fields, enter a single asterisk (*) in the field. For instance, all Palm OS library files have a type 'libr'. Thus, to create a "libraries" filter that matches all code libraries, enter "libr" in the Type ID field, and "*" in the Creator ID field.

Chapter 8 – File Information

The "File information" menu can be used to find out specific information about a selected file or to alter specific properties of PalmOS-formation databases and resources. Changes made on this screen are saved if the file is writable and not open or otherwise in use.

Warning: Make changes only if you know what you are doing.

Different property screens are shown depending on the type of file.

PalmOS Files

PalmOS-format files come in two flavors: .PDB databases and .PRC resource files. All files in PalmOS main memory are PalmOS files, but card files can be PalmOS files (identified by .PRC or .PDB file extension) or other files like text (.TXT), Jpeg (.JPG), or other file types.

PalmOS files have the following properties:

• **Filename**
>   The name of the file (shown in title bar)

• **Version**
>   The version string of a resource file is specified by an included 'tver' resource. Applications and libraries usually contain a 'tver' resource. Most other files do not.

• **Modified**
>   The modification date stamp of the file indicates when the file was created or last changed.

• **Lock Count** **(New in 2.15)**
>   This number specifies the PalmOS file lock count (aka "protect count") and can range from 0 to 15. If sets to any value other than zero (typically set to 1), it tells PalmOS to keep the file at its current location in memory. This option is a feature designed for advanced users familiar with PalmOS inner workings.
>
>   When hacks, drivers, and background applications are active, they must increment their "lock count" (in addition to other things) to prevent the operating system from moving or deleting the program file from memory. If they don't, intermittent crashes will occur when performing certain operations or at irregular times, especially on newer NVFS devices like the Palm TX and LifeDrive mobile manager, whose NVFS system more aggressively flushes files out of the system DBCache than previous NVFS versions.
>
>   Whenever a background application (pretty much anything that you have to turn "on") is running, it should have a lock count of 1 or higher. If not, to can manually set the lock to "1" to help prevent certain crashes on NVFS devices

• Stack

For applications, the "stack" variable indicates the amount of system working memory dedicated to the application stack, a special area accessed by the processor and shared by the application and any background applications. Applications can either specify a custom size 3300 bytes or larger, or use the default system stack of about 4000 bytes.

If a particular application is crashing, especially when background applications, drivers, or hacks are running, you can often boost the stack size to improve stability if the application is not in ROM. Be sure to back up the application before making any changes, just in case. See the Appendix for more instructions on how to use this feature.

• Size

Size of the file in bytes

• Records

Number of data records in the database

• Type

The application-specific ID specifying the usage for the file

• Creator

The unique ID used for applications and their associated data files

• Backup

Backs up the file with the Palm Desktop default conduit every time changes are made to it if no file-specific conduit has been installed to do the same

• Read only

Specifies that this file cannot be modified. May also indicate this file is in ROM.

• Copy protect

Protects the file from copying, beaming, and deletion by the standard app launcher.

• Hidden

Tells the system program launcher under OS5+ not to show an application's icon.

• Reset on inst.

Requires a system reset whenever the file is installed or beamed to a new device.

• Streamed

Indicates that the file represents a linear file created using PalmOS streamed file routines.

• Temporary

Instructs the system (if OS4+) to delete the file after use.

• Bundled

Requests that the application launcher beam this data file when its associated application is also beamed

• Resource

Indicates a resource (.PRC) format file instead of a database (.PDB) file

• Open

Indicates the file is currently marked in use by another application.

Non-Palm Files
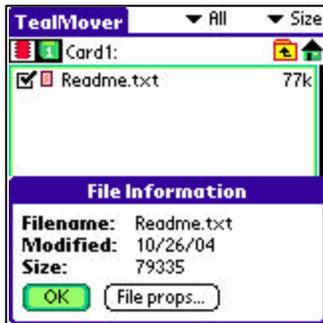
The Info Screen for non-Palm files displays only the filename, modification date, and total size of the file in bytes. An additional *File Properties* button, described next, is available on all card-based files regardless of whether they are in PalmOS format.

Card File Properties
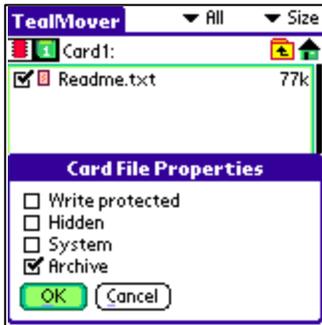
All files on external storage cards have additional card properties associated with that file's status in the card file system. These *File Attributes* are shown in the *Card Props* window and are not related to similar *Database Attributes* associated with PalmOS files.

• **Write Protected**

> Indicates that the file cannot be deleted or overwritten. This property bit affects files on external cards, while the corresponding PalmOS database "read-only" bit is usually only recognized for files in memory.

• **Hidden**

> Indicates that the file should be hidden. This property is used by PC-based card readers but is often ignored by PalmOS programs.

• **System**

> Indicates that the file is "system" related and should be hidden with other system files. This property is used by PC-based card readers but is often ignored by PalmOS programs.

• **Archive**

> This property is rarely used by some backup programs to keep track of files that have been backed-up.

Chapter 9 – System Information

System Information Screen

System Information

Manuf.:	Palm Computing
Model:	Palm IIIc
CPU:	Dragonball EZ
PalmOS:	3.50
HotSync ID:	Palm OS Emulator
Serial ID:	(none)
Free RAM:	6.8M / 7.7M
Battery:	4.2V (100%)
	warn: 3.64 crit: 2.0

(OK) (Copy to Memo) (Print)

A simple but handy **System Information** screen is available from the *Tools* menu. It lists the following useful information about the current device.

Manufacturer
> The manufacturer of the handheld or the maker of the low level firmware if from the list of known sources to date

Model
> The device model from the list of identifiable models to date

CPU
> The processing chip used in the handheld

PalmOS
> The version of PalmOS running on the device

HotSync ID
> The HotSync User Name, or ID used to identify this handheld to the desktop synchronizer

SerialID
> The serial flash serial number of the device, if support by the manufacturer

Free RAM
> The total and free main memory

Battery
> The current battery voltage level, percentage, and warning and critical voltage levels

System Memory Test

TealMover supports a new *System Memory Test* that can help identify applications that have one specific type of crash bug. This is an advanced feature for technical users only, and is especially useful for the **Tungsten T5** and **Treo 650** handhelds. **New in 2.07.**

Appearing as unpredictable system crashes, the problem occurs when PalmOS reorganizes memory, typically as part of occasional maintenance or to make space for new or larger files. Applications-- typically drivers, hacks, or background applications--sometimes rely on code or data staying in the same place, and may crash when critical data is forcefully moved by PalmOS.

Use the *System Memory Test* to help track down some of these problems. During the test, TealMover induces PalmOS to shuffle memory. If any applications resident on the handheld crash during the test or the next time you try to activate them, they likely need to be updated by their developer to fix these problems.

NOTE: these problems tend to occur when apps are running in the background, so don't automatically assume that the current on-screen app is culpable. You should always try removing an application you suspect to be problematical and retest to confirm that the crash is related to its presence. Even when removing an app stops a crash, bugs in PalmOS or interference from another program can be the true cause of the crash.

To run a test, select *System Memory Test* from the *Tools* menu. You be asked to confirm the test, as well as enter an optional buffer size. On devices with Palm's Non-Volatile File System (NVFS), TealMover will create a large temporary database file to flush out the system's 10 Mb working buffer. In the confirmation screen, you modify the size of the database file from its default value of 9 Megabytes, which we found experimentally to be the optimal value needed to force memory reorganization on a Tungsten T5. On devices without NVFS, this value has no effect, as TealMover can force a memory reorganization by other means.

NOTE for devices with non-volatile (NVFS) memory: Crashes caused by memory-reorganization are particularly common on the Tungsten T5, Treo 650, and newer devices with the PalmOS Non-Volatile File System (NVFS). On these devices, PalmSource changed the rules on what it considers movable, causing numerous crashes in applications that are completely stable on other devices. Typically, these crashes occur after HotSync, or after copying large amounts of data either to or from storage cards.

On devices with NVFS, the memory test tries to flush the NVFS working cache by creating a large (9MB) file and immediately deleting it. This usually forces a cache flush, but using it is tricky, as NVFS itself seems to be a little unstable on some devices when the DBCache is completely full. Typically, you want to raise the buffer size to the largest value that won't crash when all hacks and background apps are off, then try to repeat these results after turning some apps back on. If you suddenly get crashes only when certain apps are on, those apps might need modification to work properly under NVFS. Sometimes you can simply increment the "lock count" for those applications (in the *File Info Screen*) while other times the apps themselves need to be changed.

Chapter 10 – File Viewing and Hex Editing

While not of general usefulness to most people, one of the most powerful advanced tools in TealMover is the ability to view and edit raw data in files using the built-in record viewer and hex editor. In the hands of a knowledgeable person, this tool can be used to help diagnose and fix problems due to bad or corrupted data, fix misspellings in programs, and correct other minor problems and glitches.

WARNING: This tool is intended for individuals with an intimate knowledge of PalmOS who know what they are doing ONLY. If the instructions below do not already seem fairly obvious and self-explanatory, you should consider not using this tool at all. In any case, if you use it and end up messing up your important files, programs and/or device, please do not email us, as we cannot provide technical support for this feature.

Background

Files in main memory come in two flavors: PalmOS databases and PalmOS resources. Files on external storage cards don't have this limitation, and can be normal linear files like text and Jpeg format, or can be PDB and PRC files, which are the linear representations of PalmOS databases and resources, respectively.

TealMover edits files in memory in their native database or resource format, opening each record individually. Files on external cards are edited directly in linear format, opening the entire file into the hex editor at once.

Databases

When a database is opened, a list of (up to) its first 5000 numbered records is shown, along with each record's size. Individual records can be opened into the hex viewer/editor, or deleted from the database.

As an advanced tool, you may also create a new record in the database or resize or move an existing record. **(New in 2.20)**

Lastly, the list of records can be printed via TealPrint or exported to the MemoPad.

Resources
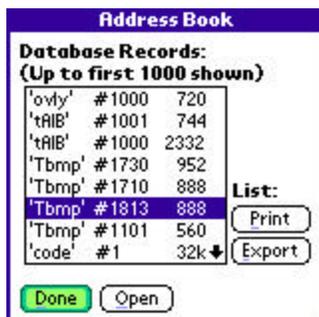
Resources are simply databases that support a 4-letter ID and number associated with each record. When a resource is opened, the resource Ids and numbers are shown with each record's size.

Preference Resources
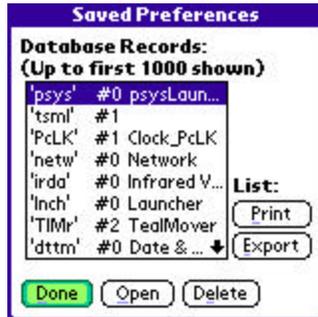
The "Saved_Preferences" and "Unsaved_Preferences" files are two special system resource databases used to store settings and data from installed applications. Each record's resource ID holds the CreatorID value of the application that created the record. When a preference databases is opened, TealMover looks for and lists any applications in main memory matching each resource ID.

For convenience, two preference menu items are available to directly open these two databases. This tool can help identify stray preference entries left from programs that are no longer on the device, and can be safely deleted to make space. It should be noted, however, that programs run from external cards can leave behind settings in preference entries that should be kept around for the next time that program is loaded.

Hex Editor
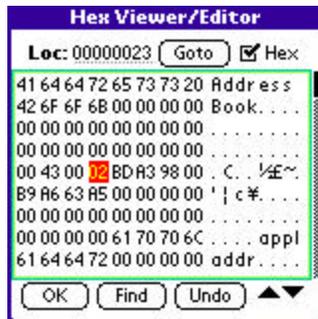
The Hex Viewer/Editor is similar to many desktop PC tools, and allows you to scroll through a record or file, viewing raw data in hexadecimal (base 16) or ASCII text equivalents.

Seeking

At the top of this screen is an index value, which shows the location of the cursor relative to the top of the file or record in decimal or hexadecimal. A "Goto" button works in conjunction with this field to allow you to seek to any specified byte offset.

Editing

To edit a byte, type in a new hexadecimal or ASCII value, depending on whether the cursor is on the ASCII or Hex side of the screen. Use "Undo" to revert any changes made since the last time the screen was scrolled.

Ascii Table
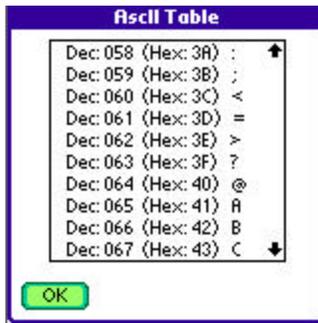
To aid in editing, a simple ASCII chart is available from a drop down menu, as is an option to export the contents of the current screen to the memopad.

Find Tool

A final useful feature is the "Find" tool, which lets you look for a sequence of bytes or characters in the record. Requested data can be entered as ASCII text or a sequence of hexadecimal values.

Appendix A – Advanced File Management

Native PalmOS files

PalmOS natively supports two file formats in main memory: databases, and resources. Databases consist of multiple individual records of data and most editable information on a PalmOS handheld, including the datebook, address book, and to-do list databases. Resources, on the other hand, are usually used for static data which is not altered by the end user, and includes actual program files and libraries, as well as some dictionaries, drivers, and language overlays.

Both resources and databases include TypeID and CreatorID codes. The former is used by applications to determine how to use a particular file, while the latter is used by PalmOS to know which applications are associated with which data files. Every application (resource files of TypeID "appl"), has a unique 4-letter CreatorID. Non-application files with the same CreatorID are assumed to be belonging to that application, and automatically get deleted by PalmOS if you delete the application using the PalmOS application launcher.

When PalmOS-format files are stored outside of main memory, they are stored as linear .PRC and .PDB files that contain all their individual records concatenated together. This format contains the file's original PalmOS name, as well as property attribute flags and Type and Creator ID's. Modifying files in this format can be difficult, which is why many applications do not fully support editing of PalmOS-format data files stored in their .PRC/.PDB representations.

Non-native PalmOS files

While external storage devices like SD/CF/Memory Stick support PalmOS-format files in their .PRC/.PDB formats, they also support all non-PalmOS files that you might normally see on a desktop PC. These include document files such as .TXT and .DOC, or image files such as .JPG, .GIF, and .BMP. Some applications support reading non-PalmOS files directly, while others only support proprietary native PalmOS files converted using their own conduits or converters.

In TealMover 1.5, support was added for copying non-PalmOS files into main memory. This can be useful for temporarily storing files, or for copying data from one storage card to another, using main memory as an intermediary. TealMover uses the PalmOS Public File protocol, which we hope will also become an emerging standard to facilitate sharing of files and directly accessing non-PalmOS format files in main memory.

PalmOS Public Files

PalmOS Public Files are simple rules to facilitate sharing of data between applications and creating standardized handling of non-native files under PalmOS. All Public files use the CreatorID 'PUBL', which has been registered with Palm but for which no single application will be created. Instead, all Public files are intended to be freely shared between applications.

When a non-Palm file is copied into main memory, it is broken up into 4k chunks and designated as a streamed I/O file under PalmOS. As non-palm files do not have a TypeID or CreatorID, it is assigned the CreatorID 'PUBL', and a four-letter TypeID depending on its file extension. For instance, a Jpeg file with a ".jpg" extension is given the TypeID '.JPG', while a text file with a ".txt" extension is given '.TXT'. Files with extensions less than 3 letters long have IDs padded out with spaces, so a ".c" file is given the TypeID '.C ', and one with no extension is given '.   '.

TealMover also supports an additional rule that allows specifying a Type and Creator ID to give a file when copying it to main memory. This can be useful for importing non-Palm files into main memory for use by programs that expect a specific type and Creator ID. To be affected by this rule, files need to follow a very specific naming convention:

> <name>-<creator>_<type>.<ext>

For instance, if an external image file named "mypicture-TIPc_Imag.jpg" is copied to main memory, it is automatically given the type 'Imag' and the Creator ID 'TIPc' instead of being made a Public file. It still maintains its original file name, however, which is important when copying the file back.

When either type of file is copied back to an external card, TealMover will recognize it as a linear file even though they have been converted to valid PalmOS-format streamed databases. It will restore the files to their original linear representations instead of converting them to .PDB files. For Public files, this is done depending on the Type and Creator ID. For other files, the filename must maintain it's special formatting and match the file's current Type and Creator ID.

Appendix B – Using TealMover to Stop Crashes

What is Stack Memory?

PalmOS was designed to be a simple streamlined operating system. Like DOS on the PC and MacOS versions prior to OSX, it was not designed for multitasking applications and relies on applications to "play nice" with system resources in order to coexist.

When running popups accessories, language utilities, security apps, and other background functionality, the majority of crashes occur when an application's stack memory becomes exhausted. This small pool of memory, which can be as low as 3300 bytes, is controlled by the foreground application (the type of app you explicitly launch from a launcher icon). However, the application stack must also be shared with any background apps or drivers that may be running.

Occasionally, an application uses almost all allocated stack memory, but their developers do not know it because they've not tested their app with many background apps running. When this occurs, seemingly random crashes occur, leaving end users to believe that the last app they installed is inherently (and irreparably) unstable. This is often not true.

Boosting Stack Memory

When a particular foreground app is crashing in combination with certain background apps, boosting the stack for the foreground app will usually stop the crashes from happening.

Under PalmOS 3 or 4, our application TealMemBrain could patch the operating system to boost the requested stack size across all applications. Under OS5, however, this solution is no longer possible.

Instead, TealMover 1.90 adds a new feature to permanently boost an application's requested stack size. This option can be found under the "Info" menu when an application is selected in the file menu. To boost the stack, simply enter a higher number in the text field next to the "Stack" header. Performing this operation actually permanently changes the application's preferences resource so that the operating system will allocate the app the new value. TealMover does not need to be around once an application has been modified.

Adding a few thousand bytes will usually do the trick. The default PalmOS stack is about 4k, while the minimum is 3.25k (about 3300 bytes). The total amount of stack is limited by the system dynamic heap, which holds the other non-file memory available to an application. This typically ranges from about 64k – 256k depending on the device and operating system. Thus, when increasing the stack size, know that the remaining dynamic heap available will shrink by the same amount. One or two thousand bytes, however, should not be significant.

In order to boost the stack this way, the file must reside in non-ROM memory. If it's an application on an external card, you can copy it to RAM and back to the card when you're done. If in ROM, you can copy the file to a card and back to make a RAM-resident copy that you can modify. If you have Flash ROMs and tools to replace the ROM version with the newly modified copy, you can do so, but the RAM file will also work where it is, as a copy in RAM should always take precedence over the one in ROM, though the one in RAM will take extra storage space, of course, if you leave it there.

Appendix C – TealPoint Pen-Free Navigation

TealPoint Pen-Free Navigation provides access to almost all programs screens and functions via keyboard or device 5-way rocker pad. Similar to the 5-way interface on the Treo 600, TICL pen-free navigation also adds similar functionality to older PalmOS handhelds with directional pads or devices with add-on keyboard peripherals.

Pad Navigation

With 5-way controls, a current button, checkbox, or text field control is highlighted in blue-green or drawn bolded in monochrome handhelds. The current control is changed by presses of the directional pad, which moves the selection to a control in the general direction of the button press. The center "select" button will activate the highlighted control, pressing buttons, toggling checkboxes, or turn on or off the cursor in a text entry field.

On some devices, like the Treo600, the direction pad is mapped in the operating system to move the cursor in an active text field. When this is the case, the direction pad will move the cursor by default, but will change the active control selection once the cursor has reached the end of the text field and can move no further in that direction.

Keyboard Navigation

With an add-on keyboard, arrow keys replace the directional pad of a 5-way control. To select a control, the Enter key may be used, except when the text cursor is active in a multi-line text field. When this is true, the Enter key will enter a line break into the text field instead.

Accelerator Keys

On screens without text entry fields or other elements which accept keystroke input, buttons may also support an accelerator key which may be pressed to simulate a press of the key. When this is the case, the letter is shown underlined in the button.

Appendix D – Compatibility

Handera and Sony Clie

TealMover supports the OS4.0 Virtual File System, and should correctly function on any device which supports VFS. The Handera 330 and Sony Clie organizers ship with OS 3.5, which implement an earlier version of VFS which should be compatible. Both units support high resolution fonts which are recognized by TealMover, as well and virtual text entry areas.

MemPlug

TealMover has limited support for the MemPlug Springboard module for Handspring Visors. The MemPlug system software is not VFS-compatible, so PalmOS files cannot be copied to and from main memory in TealMover, but the MemPlug comes with a utility for this purpose and other operations are supported. Third party VFS-compatibility libraries for MemPlug units are available which can add full VFS support to MemPlug units.

Visor Springboard Flash Modules

HandSpring Visor flash modules which do not use industry standard removable media (like SD, MMC, CF, MS) use a proprietary data format which is not file based and incompatible with the VFS file standard for moving or copying files. Because of this, and because the data communication method is proprietary, files on these modules can be read by TealMover, but cannot be changed, added, or deleted.

Appendix E – Revision History

Version 2.31 - April 18, 2008
- Added workaround for bug in TX to renable full screen mode icon in landscape mode after system mistakenly disables it

Version 2.30 - February 19, 2008
- Added support for copying nonstandard-sized records (0 or >64k) to and from cards
- Added support for editing oversized (>64k) records in view screen
- Fixed crash editing large records if not enough memory to load record

Version 2.23 – November 27, 2007
- Added new 'Auto' option for system fancy fonts to improve readability of buttons
- Improved progress bar color, changing it to a darker blue for better readability
- Fixed crash trying to edit system saved preferences in newer devices

Version 2.22 – November 14, 2007
- Fixed crash trying to resize or move a nonexistent record

Version 2.21 – October 25, 2007
- Fixed button drawing on older OS3.1 handhelds
- Fixed bug where printing function on System Info screen would only send title text to TealPrint

Version 2.20 – October 2, 2007
- Added new record move and resize tools to database view screen
- Added new improved visual style; skinny fonts and shaded buttons
- Added preferences option to enable/disable new fancy (thinline) system fonts

Version 2.17 – August 24, 2007
- Fixed display refresh problem on some devices after viewing database records
- Updated file and navigation icons with new improved style

Version 2.15 – February 24, 2006
- Added new 'Lock Count' option to Info Screen adjust the 'protection count' of databases to keep them in the NVFS DBCache buffer
- Improved default allocation size for NVFS memory test to match 9MB DBCache flush limit for better stability
- Fixed crash editing or adjusting stack of card-based applications

Version 2.13 - November 4, 2005
- Fixed copying of pdb/prc files from card to ram (broken in 2.12)

Version 2.12 – November 1, 2005
- Updated free memory display to fit multi-gigabyte capacity of LifeDrive
- Added new Palm devices to system info screens

Version 2.11 - October 20, 2005
- Fixed selection of scroll arrow s and clipping of text in list controls

Version 2.10 - October 11, 2005
- Fixed bluetooth sending on devices with missing system components (Treo650)
- Fixed compatibility with upcoming devices

Version 2.08 – September 16, 2005
- Added ability to delete folders even when not empty (recursive file delete)
- Added menu to perform system soft reset (functionality may be device dependent)
- Added security menu on main screen (for viewing private record data)
- Updated to correctly indicate deleted entries when viewing records
- Fixed data corruption when doing a find operation after making changes in hex editor
- Fixed display of scroll bars (was off 2 pixels in popup dialogs)

Version 1.00 –July 4, 2001
- Initial full release

Appendix F – Contact Info

TealMover by TealPoint Software
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San Rafael, CA 94903-3618
We look forward to hearing from you.

Please visit us at www.tealpoint.com, or email us at support@tealpoint.com.

Appendix G – Registering

Registering allows you to use the program past the 30 day expiration period and turns off registration reminders.

Currently, you may register by snail mail or online with a credit card and a secured server from the store where you downloaded the software. For the first option, send the following information on a sheet of paper separate from your payment.

- Product Name
- E-Mail Address
- HotSync User ID (Pilot Name Required for Passkey generation. It can be found on the main screen of the HotSync application on the Pilot as "Welcome _____" or in the corner on a PalmIII or higher)
- Check (drawn off a US Bank) or Money Order for ($14.95 US). No international checks or money orders please.

Appendix H – Products

Products Visit us online for our complete product line, including:

SHORTCIRCUIT (http://www.tealpoint.com/softshrt.htm)
A new twist on gameplay fused from your all time action puzzle favorite games, connect falling
conduit pieces into explosive loops in this frantic race against the clock.

SUDOKUADDICT (http://www.tealpoint.com/softsudo.htm)
Sudoku Addict brings to your handheld the addictive worldwide puzzle craze that has displaced
crossword puzzles in many newspapers in Great Britain and Japan.

TEALAGENT (http://www.tealpoint.com/softagnt.htm)
Get news, movie times, stock quotes, driving directions, web pages and more without need for a
wireless connection. TealAgent fetches and formats web-based content for offline viewing.

TEALALIAS (http://www.tealpoint.com/softalia.htm)
Free up memory and make the most of external expansion cards. Placeholder 'Alias' shortcut files
automatically find, load, and launch apps and data from external SD cards, increasing free main
memory.

TEALAUTO (http://www.tealpoint.com/softauto.htm)
Track and graph automobile mileage, service, and expenses with TealAuto, the complete log
book for your car or any vehicle. Extensive customization options and unmatched in features and
functionality.

TEALBACKUP (http://www.tealpoint.com/softback.htm)
Backup your valuable data with TealBackup, supporting manual and automatic backups to
SD/MMC/CF cards and Memory Stick, backups through HotSync, and optional compression and
encryption.

TEALDESKTOP (http://www.tealpoint.com/softdesk.htm)
Launch applications with TealDesktop, the themed replacement for the standard system launcher
screen with tabs, multiple card folders, drag and drop, and more

TEALDIET (http://www.tealpoint.com/softdiet.htm)
Shape up your life with TealDiet, the diet, exercise, and personal tracking application for mobile
devices. Lose weight, build more muscle, and live healthier with TealDiet.

TEALDOC (http://www.tealpoint.com/softdoc.htm)
Read, edit, and browse documents, Doc files, eBooks and text files with TealDoc, the enhanced
doc reader. Extensive display and customization options; TealDoc is unmatched in features and
usability.

TEALECHO (http://www.tealpoint.com/softecho.htm)
Improve your Graffiti text input speed and accuracy, seeing what you write with TealEcho digital
"ink". No more writing blind!

TEALGLANCE (http://www.tealpoint.com/softglnc.htm)
See the time, date, upcoming appointments and todo items at power-up with TealGlance. The
TealGlance pop-up utility and key guard comes up when you power up, letting you see your day
"at a glance."

TEALINFO (http://www.tealpoint.com/softinfo.htm)
Lookup postal rates, area codes, tip tables, schedules, airports, and info from hundreds of free TealInfo databases. Create you own mini-apps; a handheld reference library.

TEALLAUNCH (http://www.tealpoint.com/softlnch.htm)
Launch applications instantly with the TealLaunch pop-up launcher and button/stroke-mapping utility. Map applications to button presses and pen swipes so you can get to your apps quickly.

TEALLOCK (http://www.tealpoint.com/softlock.htm)
Secure and protect your handheld with TealLock, the automatic locking program with encryption and card support. TealLock has unmatched features and customization options for personal or corporate use.

TEALMAGNIFY (http://www.tealpoint.com/softlens.htm)
Save your eyesight with TealMagnify, an ever-ready magnifying glass that works with most any program. TealMagnify lets you enlarge the screen for those times the text is too small to read.

TEALMASTER (http://www.tealpoint.com/softmstr.htm)
Replace Hackmaster with TealMaster, the supercharged 100%-compatible system extensions manager. TealMaster adds enhanced stability, configuration and diagnostic features and PalmOS 5.0 hack emulation.

TEALMEAL (http://www.tealpoint.com/softmeal.htm)
Save and recall your favorite restaurants with TealMeal, the personal restaurant database. With TealMeal's handy sorting and selection options, never ask "where to eat" again.

TEALMEMBRAIN (http://www.tealpoint.com/softmemb.htm)
Stop crashes and monitor your memory use with TealMemBrain, the application stack stabilizer. TealMemBrain boosts your stack space on OS3 and OS4 handhelds, eliminating causes of system instability.

TEALMOVER (http://www.tealpoint.com/softmovr.htm)
Beam, delete, rename, and copy files with TealMover, the file management utility for SD/CF/MS cards. TealMover lets you see, move, modify, hex edit, and delete individual files.

TEALMOVIE (http://www.tealpoint.com/softmovi.htm)
Play and convert high-quality video and synchronized sound with the TealMovie multimedia system. TealMovie includes a handheld audio/movie player and a Windows AVI/MPEG/Quicktime converter program.

TEALNOTES (http://www.tealpoint.com/softnote.htm)
Insert freehand graphics anywhere with TealNotes "sticky notes" for Palm OS. TealNotes can be inserted into memos, to-do lists, address book entries--almost anywhere you currently have editable text.

TEALPAINT (http://www.tealpoint.com/softpnt.htm)
Paint, sketch, or draw with TealPaint, the all-in-one mobile graphics paint program and photo editor. Highlights include 25 tools, 32 patterns, 49 brushes, zoom, layers, undo, & JPEG/GIF/BMP support.

TEALPHONE (http://www.tealpoint.com/softphon.htm)
Supercharge the address book with TealPhone, the contacts replacement with superior interface and options. Highlights include enhanced display, search, phone-dialing, groups, and linking.

TEALPRINT (http://www.tealpoint.com/softprnt.htm)
Print text and graphics to IR, serial, and Windows printers with TealPrint. With numerous connection options, TealPrint, is the all-in-one text and graphic printing solution.

TEALSAFE (http://www.tealpoint.com/softsafe.htm)
Store your passwords, credit cards, PIN numbers, and bank accounts in the TealSafe data wallet. With maximum security and encryption, TealSafe is a must for features and security.

TEALSCAN (http://www.tealpoint.com/softscan.htm)
Keep your PDA or Smartphone healthy, clean, and fast with TealScan, the system maintenance utility. Use TealScan to fix crashes, find updates, and keep your device running smoothly and efficiently.

TEALSCRIPT (http://www.tealpoint.com/softscrp.htm)
TealScript adds Graffiti text input to Treo and Centro smart phones. For devices that already support Graffiti, TealScript adds a trainable system that supports both multi-stroke and Graffiti-1.

TEALTRACKER (http://www.tealpoint.com/softtrac.htm)
Track time and expenses with a fast, easy to use interface that requires minimal effort. Generate reports and export data to a spreadsheet. TealTracker is your personal time clock.

TEALTOOLS (http://www.tealpoint.com/softtool.htm)
Improve productivity with TealTools pop-up Palm Desk Accessories. TealTools includes a popup calculator, clock/stopwatch, preferences panel, editing panel, memopad, and a file/backup manager.

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