

TealLock User's Manual



Program Version 5.20
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Chapter 1 – Introduction



Thank you for trying TealLock. This program replaces the standard security application with a powerful and flexible system with many activation and customization options, insuring the security of your personal and company data.

This manual supports both the consumer version of TealLock and TealLock Corporate Edition, which adds special administrator access features designed for corporate use.

Contents

This archive contains the following files:

Program files:

TEALLOCK.PRC	The TealLock program file
TPSETUP.EXE	Easy-installer for Windows

Document files:

LOCKDOC.PDF	Program manual in Adobe Acrobat (PDF) format
LOCKDOC.HTM	Program manual in HTML format (sans images)
LOCKDOC.PRC	Program manual in TealDoc format
REGISTER.HTM	TealPoint Registration form in HTML format
REGISTER.TXT	TealPoint Registration form in text format
LOCKIMGS.PDB	Sample TealLock Background images

Chapter 2 - Installing

Single copy/demo installation

Under Windows, double-click on TPSETUP.EXE to install the necessary files. Note that you must first unzip all the source files into a working folder. If you only start TPSETUP from within WinZip, it may not find all necessary files to install.

You may also use the Palm Installer to install TealLock. After installing the program file, **TEALLOCK.PRC**, the program will appear on your device after the next HotSync. You may also want to install **LOCKIMG.S.PDB** which includes sample TealLock background images and **LOCKDOC.PRC** which is the TealLock manual as a Palm OS document. This file can be read with our application TealDoc.



The PalmOS Installer appears as an icon in the Palm Desktop program on your desktop computer. Instructions on how to use the Palm installer are in the Palm Handbook that came with your Pilot, PalmPilot, Palm, Visor, WorkPad, Handera, or CLIE.

Upgrading from older versions

When upgrading TealLock from older versions of the program, you may safely HotSync the new version over the old, but you **must first turn off the previous version** before HotSyncing the new one. If significant features have been added in the new version, you may need to re-enter your password, settings and registration information.

Site License Installations

To install a site license version of TealLock Corporate Edition, install the custom .prc file delivered upon completion of the license agreement using the PalmOS installer. To install along with identical settings on multiple units, see the **Installation File** instructions later in this document. As with single installations, any prior versions of TealLock will need to be turned off before installing a newer version. This can be done using an **Uninstall File** also detailed below.

Precautions

Due to the nature of this program (a security app), you are strongly advised to back up your organizer following the instructions in your PalmPilot handbook before activating TealLock and setting a password. In the event you should forget your password or run a downloaded application that interferes with TealLock, you may otherwise have limited options in getting back to your data.

Chapter 3 - Overview



Every year, some 20,000 handheld organizers are lost or stolen, many loaded with sensitive private or personal information. Most of these units have no protection against unauthorized use. TealLock fulfills this need by automatically locking a PalmOS handheld, hiding private records according to customized settings, encrypting sensitive data in memory or external storage cards, and requiring a password for continued use.

Background

The Palm Operating System comes equipped with some basic security features such as a system password, private record support, and a system locking screen. However, the default system is cumbersome, as one has to manually start the system security application to change the state of hidden records or to lock the device. Furthermore, its interface is inflexible, relying on graffiti as the only means to enter passwords, and features few activation or customization options. Lastly, the system is largely insecure, including no encryption features to prevent unauthorized access to sensitive data. Consequently, the system security features are often too clumsy to use and are often ignored, leaving handhelds with no security whatsoever.

TealLock

TealLock replaces the standard security application. It offers greater flexibility in order to meet individual security needs. TealLock supports 128-bit hashed passwords, encrypting of files in memory, encrypting of files on external storage cards, optional password entry by hardware buttons or online keypads, customized locking screens with text and images, graffiti stroke activation, and automatic timed activation with numerous configuration options.

TealLock is so powerful that it has been adopted by Palm itself, appearing in ROM on select Palm handhelds such as the Tungsten T2 and Tungsten C. TealLock incorporates all the features present in this enhanced *TealLock Security* application, with additional customizations and encryption options available nowhere else.

TealLock Corporate Edition

TealLock Corporate Edition expands on TealLock, providing features especially useful in a corporate environment, including a separate administrator password. The administrator password allows a company's IS department to access a handheld or issue a time-sensitive emergency password should an employee forget his or her password. More importantly, when an administrator password is active, the user is required to continue using the program;

a user password cannot be used to turn off or delete TealLock or change its configuration settings. The administrator can also:

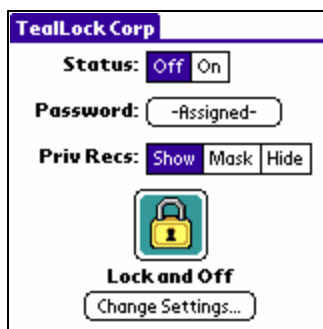
- unlock employee devices, using a time-sensitive temporary password
- set a minimum length for user passwords
- require use of both numbers and letters in user passwords
- lock out the user password after too many failed attempts
- install identical settings on multiple devices using an install file

Chapter 4 - TealLock Main Screen



Once installed, to start TealLock, go to the Palm applications launcher and tap on the TealLock icon. The **TealLock Main Screen** will appear. Here you can set a password, show or hide private records, or turn on or off TealLock protection.

Activating TealLock



The **TealLock Status** indicator shows whether TealLock has been activated. Activation is necessary before TealLock can respond to shortcut macros or automatically lock or hide private records.

Click on the **ON** button to activate TealLock protection. On handhelds running PalmOS 3 or PalmOS 4, the devices will restart to enable protection.

Once activated, if a user password has been set, it will be requested before TealLock can be turned back off.

Setting Passwords



The user password indicator on the main screen shows whether the TealLock user password has been set. Tap on the indicator to set or change the user password.

TealLock maintains its own unlocking password, which can optionally be kept in sync with the system standard password. Similar to the standard security app, you set a password to lock the device or protect private records from unauthorized viewing. The quick password is explained later in this document.

Both the standard Security application and TealLock can hide and show private records, so you should make sure that a password is set in the standard application even if one has already been set inside TealLock. It's probably a good idea to make the two passwords the same so there will not be any confusion between the two. This option can be set automatically in TealLock using the 'Keep System Password in Sync' option, which changes the system password whenever the password is set in TealLock.

NOTE: Under PalmOS 5.0+, *do not use* the automatic locking features in the Palm standard security program simultaneously with TealLock. When running TealLock, use TealLock's automatic locking options instead. And turn off any standard Security automatic locking features before activating TealLock.

Locking the Handheld



TealLock's primary function is as a locking program. It secures the handheld by bringing up a locking screen which requests a password before granting access.

Manual Locking

The **Lock and Off** button on TealLock's main screen lets you quickly secure the handheld from within TealLock. The device will be turned off, and when turned on again later, will appear on the TealLock **Locking Screen**, requesting a password to continue.

Automatic Locking

There are other numerous and more convenient automatic activation options as well, accessible from the **TealLock Settings Screen**, which is addressed later in this document.

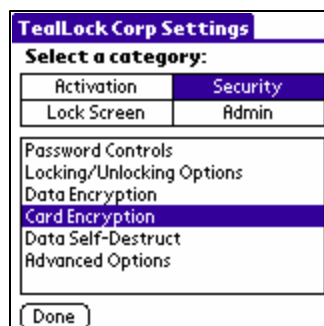
Hiding Private Records

TealLock's secondary function is to act as a mechanism for hiding and showing private records. Palm OS supports a global private record setting which is individually supported by applications to hide or show sensitive files, entries, or data records.

Manual Hide/Show Control

The **Private Records** indicator displays the current private records state: globally shown, masked or hidden. Tap on the **hide**, **mask**, or **show** buttons to change the current setting. If a user password has been set, you will be asked to enter it in order to show private records that have been hidden.

Changing Settings



The **Change Settings** button lets you access the TealLock **Settings Screen** to set and adjust many more interesting activation and customization options. Settings fall into four categories: **Activation**, **Security**, **Lock Screen**, and **Other**. In TealLock *Corporate Edition*, the last category is called **Admin** and contains extended selections.

When a password has been set, it will be required to access the settings screen. In the Corporate Edition, the normal user password cannot gain entry. Instead, the Administrator password must be entered.

Details for using individual features and settings in each of these categories follow.

Chapter 5 - Activation Settings



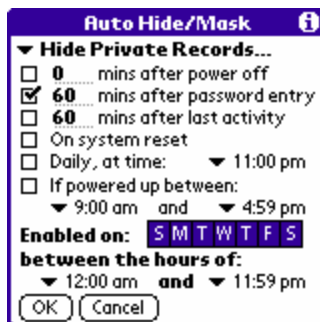
The activation screens adjust when and how TealLock engages to lock the device or handle private records. There are three activation screens: *Shortcut Strokes*, *Automatic Hiding/Masking*, and *Automatic Locking*.

Shortcut Strokes



This option specifies the graffiti shortcuts used to hide or show private records or to lock the handheld. To enter a shortcut stroke, write a cursive 'l' (lower case 'L') followed by the specified letter or number. Note that capitalization is ignored and these shortcuts override any standard graffiti shortcut macros, so you should set your TealLock shortcuts to letters that are not used as the first letter of any PalmOS macros specified in Preferences.

Automatic Hiding/Masking



The *Automatic Hiding/Masking* screen adjusts when private records are automatically hidden or masked. The following options are available.

Minutes after power off

Activates when the handheld has been off longer than a specified time period. Set to 0 for automatic activation immediately after power off.

Minutes after password entry

Activates if the specified number of minutes has passed since your password was last entered. Use this setting to setup behavior where your password is “valid” for only the specified period of time before it needs to be re-entered. The unit must be powered down before actual record hiding/locking takes place to insure that user data is not inadvertently lost.

Minutes after last activity

Similar to the “mins after power off” option, this option also takes into account the last time the screen was tapped or a button was pressed if the unit powers down due to lack of activity. Note that this option still requires the unit to power down, as it will never forcibly take control of the unit while it is on and might be in use.

On system reset

Activates if the unit is reset either by a system crash, by software control, or by the pinhole reset button in the back of the device.

Daily, at time

Activates at a specified time of day. In other words, if a specified time passes, TealLock will activate the next time the handheld is powered on.

If powered up between specified hours

Activates if the handheld is powered up (switched on) during a specified time of day.

Enabled on specified days

Sets the days of the week when the above activation options (except shortcut) apply. On the days that are not highlighted, automatic activation will not occur. (Highlighted items appear blue or gray.)

Enabled between specified hours

This option allows one to specify a time range in which automatic activation is active. Note that this option is not the same as the “*If on between*” setting. That option will trigger a TealLock activation request in certain circumstances, while this option determines whether that request (or any of the other automatic activation requests) are handled at all. Basically, unless you wish automated settings to be inactive during a certain time period, the specified hours should be set to ‘between the hours of 12:00 am and 11:59pm’.

NOTE: Setting the first time earlier than the second time (e.g. 8:00 am to 5:59 pm) will enable automatic activation in the times between. Setting the first time later than the second time (e.g. 6:00 pm to 7:59 am) will enable automatic activation to all times before the first time or after the second time on any given day. Setting the start time to one minute past the end time (e.g. 4:00 pm to 3:59pm) will enable automatic activation at all times.

Automatic Locking

The *Automatic Locking* screen is very similar to the *Automatic Hiding/Masking* screen, and supports all the same options described above.

Chapter 6 - Lock Screen Settings

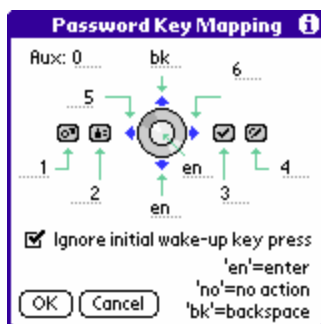


TealLock's locking screen is highly configurable, offering numerous customization options for its appearance, background, controls, and input methods.

Lock Screen Settings let you adjust the appearance, contents, and functionality of the TealLock lock screen.

Password Key Mapping

TealLock supports mapping of the four application buttons, the up/down scroll pad or Palm 5-way controller, and the auxillary voice-record button on the Tungsten T. When the locking password is set to matching characters, pen-free password entry is enabled.



By default, numbers are mapped to the application buttons, but you can reassign the buttons in the **Password Key Mapping** window.

When entering passkeys, the Page-Up scroll button functions by default as a backspace key, while the Page-Down scroll button defaults to being equivalent to writing an “enter” stroke or tapping on the “OK” button. These buttons can be remapped as well, and other buttons can be mapped to these functions instead.

Entering “en” will map a key to the enter stroke, and “bk” will remap it to the backspace stroke. Enter “no” for a button to cause it to have no action whatsoever.

Owner Text



In the **Owner Text** window, you can select the content, font, and alignment of the text that appears on the Locking Screen. Typically, this consists of instructions, company, or owner information in case the device is lost.

The text specified here can also alternatively appear on a separate help screen instead of the main locking screen when using the “help screen option” under **Additional Display Options**.

Background Image



The image settings screen lets you select a custom image to be used as a backdrop for the Locking screen. The image must already be loaded onto your handheld, having been created in TealPaint or imported using the TealPoint Image Manager which comes with TealPoint. On hires handhelds, images larger than 160x160 are displayed in high resolution.

The image must be in TealPaint image format. If multiple images exist in the named database, one will be selected at random each time the handheld is locked. You can also choose to treat the image database as an animation by selecting the

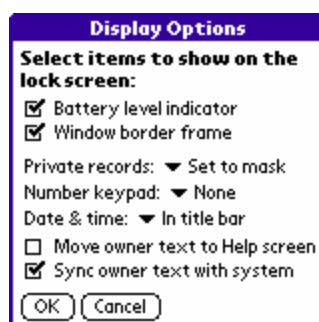
“**Animate**” checkbox item, and selecting an animation speed.

For best results, make sure the source image used matches the default current display mode of the handheld. Most monochrome devices run applications in 1-bit mode, which color apps are typically run in 8-bit mode.

For better looking images, the “**Grayscale**” option can be used on monochrome handhelds running PalmOS 3.3 or higher to show background images in 16-shade grayscale instead of the default black and white mode. Similarly, to better show 16-bit images, “**16-bit**” mode will force the system display mode to 16-bit mode while on the lock screen.

Lastly, choose the “**Cache Image**” option for faster screen updates if available memory permits.

Additional Display Options



The **Display Options** screen lets you customize the appearance and functionality of the locking screen, adding additional items such as clocks and battery level indicators.

Options available on this screen include:

Battery level indicator

Adds a battery level indicator to the lock screen.

Window border frame

Adds a border around the locking window.

Private records picklist

Adds a control to the lock screen, which allows you to select the view state of private records before unlocking the device. The private record control can be preset to whatever setting was active prior to locking the device, or can be specifically set to hide, show, or mask (if supported by PalmOS version).

Number keypad

Adds a number entry keypad to the lock screen to aid in entering numerical passwords, or act as a Trojan Horse to mislead would-be miscreants. The numerical keypad can be large, allowing a fingertip tap, or small and compact, and can be either standard computer keypad layout or in an inverted “phone-style” layout. The large “phone-style” keypad has alphabetic characters on it corresponding to those found on phone pads in the USA.

Date and Time

Adds an on-screen date and time indicator to the lock screen. Three different fonts are supported (standard, bold, and large) as well as a choice of left-aligned or center text. A seventh option also exists to place the date and time indicator in the title bar of the window.

Move owner text to help screen

This option moves the owner text off the locking screen and onto a separate “help screen”. A help button is added to the locking screen to access the moved text. Text on the help screen is shown without alignment or formatting, but can be scrolled to accommodate more than one page of text.

Sync owner text with system

When this option is set, TealLock uses and modifies the owner text set in PalmOS Preferences instead of maintaining its own separate text.

Chapter 7 - Security Settings



The Security settings screens contain options for adjusting password controls, encryption, and advanced security options.

Password Controls



Password controls allow you to specify how passwords are entered, accepted, and displayed. In TealLock Corporate Edition, these controls are particularly useful in insuring that employees choose secure passwords.

Minimum length

Useful mainly in conjunction with the administration password in *TealLock Corporate Edition*, the minimum password length feature allows an administrator to prevent a user from changing the password to anything shorter than a specified number of characters.

Mask passwords during entry

When set, this option requires displays an entered password using placeholder characters so that prying eyes cannot see the password as it is entered.

Require change every XX days

When set, this option requires that the user password be changed at regular intervals for added security, should one password become compromised. When a password is entered after sufficient passage of time, TealLock will bring up a reminder message requesting a new password to continue. When used with *TealLock Corporate Edition*, this feature can be used to ensure greater security. Other TealLock users may find this feature useful as a reminder to regularly change passwords.

Keep system password in sync

With this option set, whenever you set or change the user password in TealLock, the corresponding password in the system Security app is changed as well, keeping the two synchronized and minimizing the chance of confusion from having two active passwords at one time. Note that if you subsequently change the system password using the standard Security application, it will not be synchronized back to TealLock. Basically, you shouldn't try to use both TealLock and the standard security application.

Guest Password

A guest password can be specified and enabled with this option. A guest password can be used to unlock TealLock, but not to show private records or change settings in TealLock. In fact, unlocking a Palm with the guest password will automatically hide private records if they are currently shown. Guest passwords are useful if you wish to loan your handheld to a friend, but do not want to grant him or her access to all of your private data.

Emergency Password

When TealLock is registered, it is assigned an emergency password based on its HotSync user name and registration information, which accompanies a registration confirmation and key. This key can be kept in a safe place to unlock the device in an emergency. Turning off this option will disable the emergency key, giving stronger security but removing the option to unlock the device if a password is forgotten.

Note to Corporate Users: *TealLock Corporate Edition* automatically disables the emergency password once an Administrator key is set, as the two serve a similar purpose.

Enable Quick Password

An optional quick password allows fast unlocking of a handheld with a short password without compromising long-term security against someone trying to unlock the device by guessing passwords. When enabled, the quick password can be set when you edit the user password.

Using this feature, a much longer more secure full password can be set without making daily use of the device inconvenient.

Typically, the quick password is set to a combination of letters or numbers mapped to the hardware buttons or on-screen keypad. When the lock screen first appears, a timer begins counting down the remaining time. If the correct password is entered (tapping OK is not required), the unit is unlocked. If time elapses or an incorrect character is entered, the full password is requested.

Note: Even if an incorrect key is entered, the full countdown always continues, so someone repeatedly trying to bypass the quick password at different times will get no feedback if any entered letters were correct. Once a mistake is made, the quick passkey timer can be dismissed with a backspace stroke.

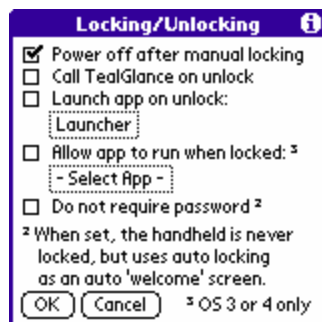
Quick password time limit

Specifies the number of seconds a user has to enter the quick password before the full password is required.

Start countdown after first key

Sometimes, third party applications may wake up the handheld, causing the quick password timer to expire before it can be used. This can also happen when a button is accidentally pressed while the handheld is in a pocket or purse. When this option is set, the countdown waits for the user to enter a key, and only begins after the first character is received.

Locking/Unlocking Options



The following options affect how TealLock functions when locking or unlocking the handheld.

Power off after manual locking

When set, the handheld automatically turns off after being manually locked from the graffiti locking shortcut.

Call TealGlance on Unlock

Activates the program TealGlance to bring up its information screen after the unlock screen has been dismissed. TealGlance normally appears on power-on, but won't do so if the device is locked in TealLock. This option provides for a delayed activation of that program.

Launch specified app on unlock

This option lets you specify a program to run after the handheld is unlocked. Any individual application can be specified here, including the system application launcher (OS 3.0+) or system application.

When you do NOT use this option, TealLock returns to the program that was running before locking, if it is present in RAM. If you were running a card-based application, the temporary copy loaded into memory by the system launcher has likely been deleted by PalmOS, so control will return to the TealLock main screen.

Allow app to run when locked

A specialized feature meant for specific applications, this option instructs the locking screen to release control to a specified application to run even when the handheld is locked. When that application exits, control is returned to TealLock. This option requires the device already be on the locking screen before it releases control. so it normally used in conjunction with the "wake up device to lock handheld" option.

Compatibility

This option works best with PalmOS 4 or earlier, and will *not* work with all devices, configurations, and third-party programs. As the device is temporarily unlocked to allow an app to run, the configuration must be tested to insure that the app does not do anything to jeopardize security when running.

PalmOS 5

On OS 5 handhelds, one must be particularly careful that undesirable application launching mechanisms are disabled, as PalmOS requires TealLock unlock the device before the identity of the new application is available. While TealLock will relock the device if it is not the specified app, a brief flash of an undesired app may appear if it is not blocked from starting. This usually means mapping application buttons to keystrokes to prevent them from launching their default apps.

Backup Programs

Some programs that feature a timed backup feature need to temporarily switch the current application to itself to perform the backup. This option can be used to allow the backup to occur in many instances. In order to do so, the backup app must support the backup process when the system lock flag is set.

PalmOS-powered phones

This option can be used to allow phone dialing and/or receiving on Treo phones and Kyocera Smartphones. Please test this feature to insure it is functional and secure with your handheld configuration.

To use this feature, first **check the “run when locked” option and select the application you wish to allow to run.** On the Kyocera 7135, the dialing application is simply called “dialer”. On the Treo 300, it is called “phone”. Note: on the Treo 600, you must select “Cancel” to exit the phone application if activated when locked.

Receiving calls

Next, insure that there is a mechanism used to launch the program. For incoming calls on some phones, the system may automatically attempt to launch the phone applications. On these devices, no additional configuration is necessary to receive calls. For other phones, receiving calls, if possible, may require similar configuration to outgoing calls, below.

If you are using an automatic locking feature, **turn on the ‘Wake up to lock handheld’ option** to keep locking activation from interfering with the receipt of a call.

Outgoing calls

For outgoing calls, or to launch a non-phone application, a button mapping is typically used. To enable the normal functionality of one of the four hardware application buttons, simply map the button in the standard PalmOS button Preferences panel, and **turn off Password Entry Key Mapping** in TealLock for that button. Note that you may wish to leave the TealLock key mapping in place if you want to lock out outgoing calls but still use the “run when locked” feature to allow incoming calls.

Do not require password

This unusual option is present when TealLock is not really being used as a locking program at all. Instead, the lock screen is used as a “Welcome” screen for commercial or promotional purposes, and automatic “locking” activation is used to bring up this welcome screen. Setting this option turns off the password requirement for the locking screen, while still leaving the password in place for security private records.

Data Encryption



TealLock's data encryption feature lets you add an additional layer of protection, encrypting selected databases when your device is locked. To turn on encryption, set the data encryption pick list to "on".

Data Applications/Files

Files to encrypt can be selected by application or individual file. Up to six individual files can be selected and an unlimited number of applications. When an application is selected, all .PDB database files associated with that application are automatically encrypted.

Private / Public Records

Three encryption methods are available. A custom fast encryption method adds additional protection to TealLock's locking and private record mechanism with minimum added encryption and decryption time. A more secure 128-bit MDC encryption based on an industry-standard MD5-Hash provides stronger encryption, while a 128-bit Blowfish algorithm provides the strongest protection with a reasonably fast encryption speed.

Both private and non-private records can be protected, and their encryption types can be individually set or turned off. By setting different encryption types for different records, maximum protection can be achieved with minimum encryption time.

Card Encryption



TealLock's card encryption feature lets you also encrypt data files stored externally on a removable VFS-compatible storage card such as compact flash, Memory Stick, SD, and MMC.

Set card encryption to "on", select files to encrypt, and select an encryption type to enable card encryption. Note that access speed to external cards is much slower than internal memory, so be frugal when choosing files to encrypt.

To add files to the list to encrypt, tap "add" to bring up a list of external files. Double-Tap on folder names to navigate into those folders.

Data Self-Destruct



TealLock's data self-destruct option provides a last line of defense against unauthorized access to sensitive data. This feature can be used to destroy data if it detects an attempt at unauthorized access. Once data is destroyed, the handheld will have all writable databases deleted and must be hard-reset before it can be used.

Booby Trap

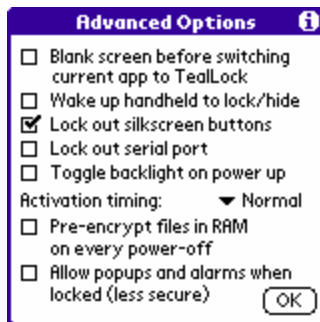
A 'booby trap' password can be set to destroy data if a particular password is entered. This can be used to keep someone from unlock a handheld by guessing common passwords. For instance, a handheld can be set to self-destruct if "password" (a common insecure password) is entered as a guess. Being even more devious, a help screen can be set to mislead someone. For instance, one might set the locking screen help text to: "Enter my password. Hint: my favorite color", and set a booby trap to "blue". Of course, any booby trap set here should never be confusable with a genuine password.

Destroy data after too many tries

This "self-destruct" option can be used to prevent brute force attacks by erasing all databases on the handheld after too many incorrect passwords have been entered into a locked device. Use extreme caution activating this feature so that a forgotten password or other text entry problem does not inadvertently cause loss of data. Always fully back up all data and verify password functionality before setting this option.

Note to Corporate users: When used in conjunction with the user password lockout option in *TealLock Corporate Edition*, this self-destruct mechanism will activate based on the number of failed attempts to unlock the device *after* the user password has already been locked out.

Advanced Options



The Advanced Settings screen allows one to set options designed to fine-tune TealLock's behavior or compatibility with other programs.

Advanced options include:

Blank screen before switching current app to TealLock

When TealLock is set to hide private records or lock the device on power-off, it can be set to blank the screen to prevent the previous application from flashing up briefly on screen before the lock screen appears. This may interfere with a few drawing programs, (notably *Bugme!*), which store their graphics directly in screen memory. For compatibility with such programs, you may wish to turn this option off. On some devices or with some programs, popup alarms may also appear blank if this option is selected. If this occurs, make sure this option is not selected.

Wake up handheld to lock/hide

Normally, when a time-determined option is selected, such as "lock after elapsed minutes" or "lock daily at time", TealLock checks the elapsed time after the handheld is powered-up. If it detects the locking condition has been met, it brings up the locking screen. Even if the handheld is set to lock immediately on power-off, this cannot occur immediately because the processor is turned off before the lock screen can be enabled.

When this option is selected, however, TealLock uses a system timer to briefly wake the handheld and lock the unit roughly 30 seconds after the locking condition has been met. This insures that the handheld is already locked and records have been encrypted when the handheld is manually awoken later.

Lock out silkscreen buttons

This option blocks pen strokes in the silkscreen area below the screen when the unit is on the TealLock lock screen. This is useful in preventing some third party popup programs and launchers from recognizing taps in the graffiti area and popping up when the handheld is locked.

Lock out serial port

When activated, this option opens the serial port upon entry of the lock screen. This can prevent the unlikely scenario of someone using the Palm OS serial debugger or other program to access data on the unit. Using this option can consume power more quickly on some devices, however, and you should not use this option when connected to an external modem another device which might automatically turn on when the port is left open.

Toggle backlight on power up

When this option is set, a command to toggle the handheld's backlight (if supported) is to the PalmOS display system. Use this option to automatically turn on the backlight on devices (like the PalmV or m505) which do not store the previous state of the backlight. On devices which already restore the previous state, the backlight will toggle to the other state (on if off; off if on) which is not usually a particularly useful feature.

Activation timing

Activation timing allows one to adjust how long TealLock waits before bringing up the TealLock lock screen after power-up for compatibility with third-party programs. Changing to either faster or shorter delay times may result in quicker overall switching times, as too fast a delay time may result in a failed switching attempts and a required retry.

Note: Recent code changes make this option largely unnecessary, but experimentation may still yield helpful results with some applications. This setting has no effect on handhelds running PalmOS 5 or higher.

Pre-encrypt files in RAM on every power off

Included for compatibility with earlier versions of TealLock, this option has largely been made obsolete by the "wake up to lock" option. We recommend using the latter option instead, as it tends to be more secure and more compatible with third party applications.

When selected, this option forces TealLock to always go through the encryption process when the unit is turned off. This was originally intended to prevent someone from bypassing the encryption process by performing a soft reset.

This process starts when the power button is pressed or the device times out. It does not put up a visual indicator. As the unit only turns off after selected databases have been encrypted, this will cause a delay from when the device is manually switched off and when the display actually shuts off. When the device is powered up, databases will be automatically decrypted if the lock condition has not been met. Because TealLock encrypts without exiting your open programs, care must be taken not to turn off the device while abusive applications are running. (Abusive applications are those which abuse system resources, not leaving enough memory for a third party application to run.)

Note: This option is NOT compatible with card encryption. For this and other reasons mentioned above, we recommend using the "Wake to lock handheld" option if possible.

Allow Popups when Locked

Normally, when TealLock is on its lock screen, it calls a PalmOS system function to lock out most system popup windows such as those used to respond to network or wireless events. Use this special-purpose advanced option to allow system popups if required for a particular need. The usefulness and functionality of this option will vary from device to device depending on third party and system software, and will likely require experimentation and test to see if it meets a particular need.

Chapter 8 - Other Settings

Settings file



TealLock allows you to save the current settings, including password, activation state, and customization options, into a file that can be manipulated in memory or backed up onto the desktop. When moved into flash memory along with TealLock (by using a third party utility like FlashPro), the file can be used to restore settings and lock the handheld even after a full power loss or hard reset. (When this occurs, the handheld's memory and other data have already been erased, but this feature may encourage someone to return a lost handheld instead of keeping it.)

Warning: Be extremely careful when using a settings file for this purpose. Do not attempt this procedure using pre-release versions or test builds, or with passwords one might lose, as recovering the unit afterwards can be extremely difficult, or sometimes impossible.

To create and use a settings file:

- 1) Turn off TealLock
- 2) Move TealLock into flash using a third-party flash utility like FlashPro by HandEra (formerly Technology Research Group)
- 3) Turn On TealLock (now in flash)
- 4) Write a settings file
- 5) Move the settings file ("TealLock Settings") into flash as well.

Before the file is written, you will be asked for a password to imbed into the file. The passkey will be restored in event of memory loss and will be set as the system password as well. Use this feature with **extreme care**, because if you forget your passkey, you may be permanently locked out of your device.

The settings file can also be used to install identical settings on multiple devices when used under a company Site License. To do so, write a settings file and backup as described above. The settings file will be copied back to the desktop computer in the user's backup folder (typically c:\palm\username\backup). Make a copy of this file ("TealLock_Settings.pdb") and install it along with TealLock onto a new handheld. When TealLock is first run on that device, it will adopt its settings from the settings file, which can then be optionally deleted using a file management utility, as it is no longer needed.

When using *TealLock Corporate Edition*, the **Install File** (see below), should be used for this purpose. Do **not** use both an install file and settings file simultaneously.

NOTE: Because of the high potential risk and the difficulty of using a third party flash utility, we do not generally recommend using this feature, and cannot give specific support and instructions beyond what is presented here.

Chapter 9 – Corporate Admin Settings



In TealLock Corporate Edition, the **Other** menu is replaced by an **Admin** which contains additional settings useful in a multi-unit corporate environment, where a company-designated administrator can globally control access to devices and TealLock settings.

The following choices are available exclusively in *TealLock Corporate Edition*.

Admin Controls



From the Admin Controls screen you can set the administrator password and set password and lockout options.

Administrator Password

The Administrator password field lets you set a separate password for deactivating TealLock or accessing the settings screens. When an administrator password is set, TealLock's emergency password is disabled, and the User password will not be accepted for turning off TealLock or accessing the settings screen, only for unlocking the handheld or showing private records. Instead, only the Administrator password will grant full access to the device and TealLock's settings.

Lockout after too many password attempts

When the lockout option is active, a user has only a specified number of attempts to unlock a locked handheld. After the attempts have expired, the user password is no longer accepted and the administrator password is needed to unlock the unit.

Require letters and numbers

When set, this option requires user passwords to contain at least one number and one alphabetic character. Use this option in conjunction with the **minimum password length** control to prevent an employee from setting an insecure or easy-to-guess password.

Double up system lock when reset

Normally, if the handheld is reset while on the TealLock locking screen, TealLock will fall back to the Palm OS system security lockout screen. When the double-up option is set, TealLock's lock screen will also stay active, and will be shown after the system lockout screen is dispatched. This option is useful if for some reason the system's security password is turned off outside TealLock, rendering the system lockout screen insecure.

Remote Unlock

One of TealLock Corporate Edition's extremely useful and exclusive features is the ability for an Administrator to unlock an employee's handheld remotely, generating a temporary password which can be read over the phone or transmitted over email and keyed to the individual user's device.

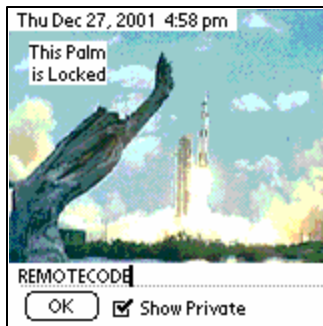
Valid for only one hour, the remote passkey is no longer valid after expiration and is secured by 128-bit encryption. It cannot be used to calculate a passkey valid at a later date or derive the administrator passkey.

The Remote Unlock feature can only be used on handheld units with identical installation settings to the Administrator's handheld. Settings will be identical if

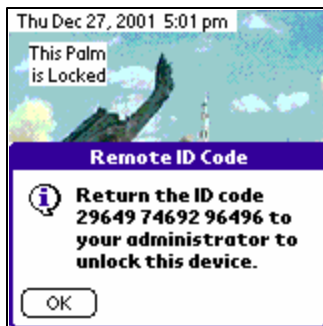
- 1) the remote handheld was installed using an Install File generated on the Administrator's handheld, or
- 2) if both units were set up using the same Install File.

Remote Unlock will *not* function on handhelds installed with a different administrator password or in the standard (non-Corporate) version of TealLock.

Using remote unlock:



1) The administrator instructs the employee to enter the text 'REMOTECODE' (no space, not case-sensitive, no quotes) as the unlocking password on the locked-out device:



2) The employee's handheld will return a 15 digit numerical **Remote ID Code** which encodes the date-stamp and identity hash of the device. This code is reported back to the administrator:



3) Using a second device, the administrator enters the Remote ID Code on the '**Remote Unlocking**' screen (with no spaces) to generate a temporary unlocking code keyed to the specific device and valid one hour from the '**Valid at**' time. The validity of the code is verified by the time on the remote unit, so if the time on that device is set incorrectly or if the employee is in another time zone, the remote time should be used when making the code.



4) To verify the time on the remote handheld, the local time can be displayed in TealLock by entering an incorrect password.

Note: To prevent an employee from requesting a passkey which may be valid at a future date, TealLock will show a warning if the Remote ID reflects either 1) a future time relative to the time on the Administrator's handheld, or 2) if the install time on the remote handheld precedes the last time the administrator key was set on the administrator's handheld. If time differences are due to time zone discrepancies or if the administrator passkey has been adjusted (and restored) after initial installation, the warnings can be ignored.



5) The administrator taps '**Make Unlock Code**' to generate a 28-digit temporary unlocking key valid for the specified time. Unlike the numerical Remote ID code, the Unlocking Code will consist of both numbers and letters. Note that the letters **i**, **z**, and **o** are **not** used in the unlock code to avoid confusion with the numbers 1, 2, and 0, respectively.



1) The administrator relays the unlock code to the employee, who enters it into the locked device to gain access.



7) After unlocking, the employee will be asked to enter and verify a new user password to replace the lost one.

Install File



Once desired settings are configured on an administrator's machine, the install file feature can be used to automatically copy these settings onto individual employee devices upon installation.

To use this feature, perform the following steps:

- 1) Configure an initial administrator handheld with the desired individual display, activation, and password settings. If the program is a customized program version received as part of a site license, enter the company registration key as well.
- 2) Tap on the **"Install File"** button to create the install file on the model handheld, and select "Install File". You will be asked for a password to imbed into the file, which will be the initial password needed to unlock the device immediately after installation. After initially unlocking the handheld with this password, the employee will be asked to enter a new unique individual password to continue.
- 3) HotSync the administrator handheld. The install file will be copied to the handheld's backup folder on the desktop computer. The exact location depends on where the Palm Desktop Software was installed, but a typical location is

C:\Program Files\Palm\UserName\Backup

Where "UserName" is an abbreviated form of your handheld's HotSync name.

- 4) Locate the backed-up file on the desktop and make a copy to a convenient location. If you are encrypting named databases, you should also find and save the file "TealLock AppListDB", which contains the IDs of the files to be encrypted.
- 5) Using the Palm Install Tool, install the install file and TealLock (and optionally the AppListDB) to individual handheld devices. If a previous version of TealLock is already running on any of the devices, it must be turned off first to continue.

For convenient installation, the program **TealInstall** can also be used to bind TealLock and the install file into a single self-installing Windows executable file which can be distributed via email, networks or other convenient means. With TealInstall, the employee only need double-click on the file to install TealLock at the next HotSync. Download TealInstall on our developer's page (www.tealpoint.com/developr.htm) or contact us for a corporate site license.

Other third-party HotSync solutions, such as Extended Systems can be used here as well. To work, the solution need only be able to simultaneously install both files onto a target handheld.

- 7) Unlike a simple settings file, the install file forces a reset on the new Palm after HotSync. TealLock will automatically install, activate, and lock the Palm, and require the initial password to unlock. After unlocking, it will ask the user to specify a new password before continuing.

- 8) If a customized version of TealLock Corporate Edition is being used, it should already be registered from the install file. If instead the individual copies are being installed as part of a small-scale site license, individual registration passkeys will need to be entered on the individual devices to turn off registration reminders.

Uninstall File

The screenshot shows a dialog box titled "TealLock Corp Settings". It has a section "Select a category:" with four buttons: "Activation", "Security", "Lock Screen", and "Admin". The "Admin" button is highlighted. Below this is a section titled "Administrator Password" with the text "Enter the admin password on the units to uninstall:" followed by a single-character password input field. At the bottom are "OK" and "Cancel" buttons.

An uninstall file automates entry of an administrator password used to turn off devices deployed in the field. An older version of TealLock must be turned off before a newer version or updated settings are installed.

To use this feature, perform the following steps on a handheld running the **SAME VERSION** of TealLock as the units in the field:

- 1) Tap on **"Uninstall File"**. You will be asked for a password to imbed into the file, which should be the administrator password installed onto the field units.
- 2) HotSync the administrator handheld. The install file will be copied to the handheld's backup folder on the desktop computer. The exact location depends on where the Palm Desktop Software was installed, but a typical location is

C:\Program Files\Palm\UserName\Backup

Where "UserName" is an abbreviated form of the handheld's HotSync name.

- 3) Locate the backed-up file on the desktop and make a copy to a convenient location.
- 4) Using the Palm Install Tool, install the uninstall file to the field units. Other HotSync solutions (such as Extended System) can also be used to install files to the other handhelds. The TealMover file transfer program can even be used to directly beam the file onto a field unit.
- 5) After receiving the uninstall file, a dialog requesting a soft reset should appear on each handheld. When tapped, the units should reset and restart with TealLock turned off, ready for installation of a new program version and settings.

When changing settings

When updating TealLock settings but not changing TealLock versions, an install file and uninstall file can be used simultaneously. The new settings file **MUST** contain a new administrator password.

When updating versions

When upgrading TealLock to a new version, the uninstall of the old version and installation of the new version must be done in two steps unless using a site license version of TealLock and upgrading to TealLock 5 or higher. When this is the case, make sure the uninstall file is made with the older version and the install file made using the new program with new settings.

SECURITY NOTE: The uninstall file feature simply imbeds whatever password you enter into the created file. As such, the feature cannot be used beforehand to compromise an administrator password. Once an uninstall file has been created and deployed in the field, however, the old administrator password should be considered insecure, as the uninstall file contains a lightly encrypted copy of the password. Also, anyone with a copy of the file can turn off any units using the old administrator password, so all future installations must be configured with a new administrator password.

Appendix A - Usage Tips

Setting a Password

If you set a password, whenever you lock the device, you'll be required to enter the key again to regain access to your data. If you hide private records, you'll also be asked for the same key to show the records again. Obviously, you should keep your password in a safe place. Be sure to set a password for the standard security app as well, so private records cannot be shown from there without a password. We recommend you set both passwords to the same value or use the "Keep system password in sync" option to do this automatically.

Emergency Password

When you register, you'll be assigned an emergency password based on your registration key and Hotsync User Name that can be used to unlock your unit should you forget your normal password and have the "Emergency Password" option set. This is not the same as your registration key. If you need an emergency key, you can request that it be sent to the registration email that we have on file.

Note that the emergency password only works with TealLock, not with the System Lockout screen, which comes up if someone tries to bypass TealLock by resetting the handheld. Also, the emergency Password is disabled in TealLock Corporate Edition if an administrator password is set. You can disable the emergency password in the standard edition as well by unchecking the corresponding option in the Advanced Security settings screen. Lastly, the emergency password can be used to gain last-resort access to the device, but it WILL NOT DECRYPT DATABASES that you have encrypted on the device, and any data encrypted when you use an emergency password will likely be lost.

Receiving calls with your Treo or Kyocera Smartphone

Tealock does not automatically allow most applications to run while your handheld is locked. Since PDA phones require a Dialing application to run in order for you to receive a phone call, you need to specifically set a TealLock option to allow the Dialer to run. To do so, go to the TealLock settings screen and tap on 'Locking/Unlocking options' in the 'Security' category. Check '**Allow app to run when locked**' and select your phone's dialer application. Also use the '**Wake up to lock handheld**' feature to keep locking activation from interfering with the receipt of a call. See the section of this manual on using this option for more details on configuring the program for call compatibility.

Lock-screen Images

You can select an image database to be used as background imagery for your locking screen. This database must be in *TealPaint* format and can be modified in *TealPaint*. Use the TealPaint Image Manager which comes with TealPaint to import your own image to

TealPaint format. You can have multiple images in this database. If you do, a random image will be chosen each time you lock the handheld.

Thus, you can create a number of images in *TealPaint*, and add text there if you wish for "quote of the day" functionality, inspirational images, etc. In the image-select screen, enter the name of the image database to use. The one provided with *TealLock* is called "LockImgs". If you change it, be sure to specify the name as it appears in TealPaint with the exact same spelling and capitalization.

Lock-screen Text

The text that appears on the "Locked" screen can be modified. It can be bold or not, but is always black on white and drawn from the left hand side of the display or centered. If you are using an image, you should make space for the text, or better yet, render the text into the images themselves.

Shortcuts

Use the shortcuts to hide private records, show private records, or lock the handheld, at anytime. You do not need to be in a text-editing field for the shortcuts to work. A shortcut is a graffiti stroke which resembles a cursive lower-case 'L' followed by letter you select. A popup screen will tell you when private records are shown or hidden. When showing private records, if you have a password set, you'll be asked for the password to continue, and returned to the previous application when done.

When selecting shortcut strokes, make sure the letters do not match the first letters of any standard PalmOS shortcut macros set in Preferences.

Welcome Screen

If you want to use a password to protect your private records, but don't want to lock your device, you can set the "Don't require password" option, which turns the "locked" screen into a "welcome" screen that does not require a password, but shows your message and waits for an "OK" before continuing.

System Lockout Screen



If your handheld is reset while locked, TealLock will fallback to the system Lockout Screen in ROM for maximum security. This lockout screen has the text "System Lockout Screen" at the top of the screen. The password for this screen will only be the same as TealLock's password if you set them to be the same, or use the advanced option "Keep system password in sync" to do this automatically whenever you change the user password. The TealLock emergency password and administrator passwords will NOT work for the System Lockout Screen, and there is no way past this lockout screen if you forget the password here.

NOTE: Under TealLock Corporate Edition, TealLock's password screen can be set to double-up on the system password, so in case of an undiscovered flaw or backdoor in the system security, TealLock locking screen will still need to be passed.

Appendix B – HIPAA Compliance with TealLock

Background

The **Health Insurance Portability and Accountability Act (HIPAA)**, establishes standards, requirements, and penalties designed to insure the privacy and security of patient records and data. Finalized in February 2003, the security provisions of HIPAA include physical, administrative, and technical safeguards to protect the integrity and access to information. Covered health care organizations are required to comply with HIPAA or face penalties of up to 10 years imprisonment and a \$250,000 fine.

TealLock HIPAA compliance features

With more and more patient-related data finding its way onto to physician-owned handhelds, TealLock can play a vital role in insuring that any organization's HIPAA compliance program. TealLock features relating to HIPAA Security Technical Safeguards (164.312) include:

Access control	TealLock password-protection insures that only persons with access rights can view or modify protected health information (PHI) stored on the device.
Automatic logoff	TealLock can automatically lock the handheld a specified number of minutes after a password is entered, performing an automatic logoff.
Emergency access procedure	TealLock administrator passwords can provide authorized individuals full access rights to data stored on the handhelds in an emergency.
Encryption and decryption	TealLock supports encryption and decryption of data stored both in memory and on external storage cards with industry-standard 128-bit protection.

TealLock site licenses are available for companies and organizations of 50 or more handhelds. Contact us at corporate@tealpoint.com or visit www.tealpoint.com for more information.

Appendix C – Security Whitepaper

Password Security and Data Encryption in TealLock TealPoint Software

This document outlines the password and encryption methods used in TealLock as they apply to TealLock Corporate Edition for PalmOS. TealLock is a security application for PalmOS handhelds, supplementing the security of the device with an automatic password-based locking mechanism and optional encryption of selected databases while the device is locked.

Individual Passwords

Both individual user and administrator passwords are handled in TealLock in a similar manner. The passwords are not saved on the device, but hashed using an industry standard 128-bit MD5 algorithm. When a password is requested, entered values are hashed using the MD5 and compared to saved values to gain access.

Remote Passwords

Remote-unlocking passwords, unique to TealLock on the PalmOS platform, allow IT personnel to issue time-sensitive passwords to individual users to unlock their devices without compromising the global administrator password or future remote passwords. While simple checksums and embedded bits in unlocking keys are used to code a particular unlocking key to a single device or hour of the day, an MD5-based OTP (one time password) system prevents a code from being used after the day of issuance even if the program code is reverse-engineered. When generating codes on the administrator device, TealLock issues a warning should an employee misadjust their system time in an attempt to request a key for a future date. TealLock can generate 1000 unique remote passwords, one valid for each day after initial selection of the administrator password. Thus, the administrator password used on devices in the field should be changed at least once every 2 and ½ years to avoid running out of valid remote passwords.

Encryption Keys

Encryption keys in TealLock are generated using an MD5 hash of the user password, utilizing a separate hashing key from that used for password verification. After encryption, the key is deleted from memory. When a user password is entered to unlock the handheld, it is hashed using the encryption hashing key to regenerate the encryption key used to decrypt the encrypted data.

In TealLock Corporate Edition, when an administration key has also been set, a second encryption key based on the administrator passkey is also generated. The user and admin keys are then each used to create encrypted backups of the other using a 128-bit MDC/MD5 block cipher, and the original keys are erased from the device. This system allows recovering of the encryption key only if either the administrator or user password is entered.

Encryption Algorithms

TealLock supports three standard encryption methods:

1) Fast

The "fast" encryption method utilizes the output of a 64-bit pseudo-random number generator as a bit stream to XOR with the data to be masked. Designed for speed, it is not designed to be robust from a "known-text" attack by a crypto-analyst, but is suitable for routine use and protection from ordinary individuals.

2) 128-bit MDC/MD5

This known algorithm, added to TealLock in version 4.00, consists of a message digest cipher (MDC) using an MD5 algorithm as the one-way hashing function. Commonly in use, this is known as an MDC/MD5 and is the slowest algorithm supported, but is useful for encrypting small amounts of data.

3) 128-bit Blowfish

Added to TealLock in version 4.15, the blowfish algorithm was created by Bruce Schneier as a drop-in replacement for DES or IDEA, and is growing in popularity as a strong encryption algorithm. Supporting variable key sizes from 32 to 448 bits, it has been implemented in TealLock using a 128-bit key.

Encryption Strength

All encryption methods use keys based on user passwords, salted with additional machine metrics specific to the device and files being encrypted. The 128-bit keys provide maximum protection for alphanumeric passwords up to 20 characters in length. Real-world protection depends on the actual length of user passwords.

It is interesting and somewhat amusing to note some competing products claiming 512-bit or higher protection, which is, of course, unachievable unless users are required to enter randomly-chosen, 80-character long passkeys. A recommended minimum password length of 8-characters represents at most 52 or so bits of entropy, limiting any true achievable security to the same bit length regardless of encryption bit depth. Using a 512-bit encryption algorithm under such circumstances and filling in the missing bits with bytes stored on the device may in fact compromise security and result in a less secure encryption.

Additional Password Features

The selection of insecure passwords by end users is the largest security threat in any corporate environment. To enhance password security, TealLock supports features to enforce minimum lengths for user passwords and require both letters and numbers to be present in passwords to prevent "dictionary" cracking methods. In addition, options are provided for both a user password lockout and data self-destruct modes to deter brute force attacks.

Device-specific Implementations

TealLock 5.0 supports additional encryption ciphers by way of the PalmOS Cryptomanager library. Encryption ciphers installed into ROM by the handheld manufacturer are automatically recognized by TealLock and make available for use.

On the Palm Tungsten C handheld, TealLock supports optional 128-bit RC4 encryption via the Cryptomanager library. In fact, the standard Security application present in ROM on both the Tungsten C and Tungsten T2 are special streamlined versions of TealLock standard edition, licensed by Palm from TealPoint Software specifically to enhance the security of those devices for the enterprise market.

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Appendix D - Compatibility

As we cannot control the style and robustness of other products, we cannot guarantee compatibility with Palm OS applications beyond those included from Palm Computing. However, we try to resolve compatibility issues as best we can.

Installation and launching

I can't HotSync the new version or move it to Flash memory

The built-in delete-protection will prevent you from overriding the program while it is currently running. You must first turn it off first before upgrading to a newer version or deleting the program.

TealLock crashes as soon as I try to run it; I've restored from backup

There is a known problem with Backupbuddy correctly backing-up and/or restoring TealLock, possibly because it cannot handle files which are currently locked and hooked up into PalmOS. When run, Backupbuddy "restores" a corrupt 1k file which cannot be run or deleted by the standard system launcher. To fix it, use TealMover or a similar file-management program to delete the 1k TealLock file after turning off its protect and readonly bits and reinstall TealLock from the original download, and check with Blue Nomad for more assistance.

Password entry

Help! I can't enter my password

Make sure that the Text entry line is active, which is indicated by a flashing cursor. If it is not, click on the text entry line first.

The Quick Password doesn't work sometimes...

By default, the four hardware buttons are mapped to '1','2','3', and '4', respectively. This allows you to unlock your device 'pen free' using the quick password if your quick password uses these numbers or whatever characters you choose to map. When you turn on the device using a hardware application button (or accidentally do so while it's in your pocket), that first press counts as entering a key, which will invalidate your quick password entry. To keep this from happening, you can map all four buttons (and optionally the Palm V contrast button) to nothing by setting them all to "no". In TealLock 5.0, you can set the quick password countdown to start only after the initial key presss.

Help! My Treo keeps asking me for a 4-digit numerical password, but I haven't set one.

This is the phone-locking screen that is part of the Treo's "Phone" application. It is not a request coming from TealLock. The Treo will automatically activate its own locking in

certain circumstances, but uses a different password that is not related to the one set in TealLock. By default, this password is set to the last 4 digits of your phone number.

Help! I reset the Palm and my password doesn't work.

After a reset, TealLock falls back to the system lockout screen, which is part of the Palm OS, not the TealLock locking screen. If you set the standard Palm security app to a different passkey, and have not set the "Keep system password in sync" option or have changed the system password after the one in TealLock, enter the system key instead of your TealLock key. The system security screen says "System Lockout" in the title bar.

PalmOS Phone Support

How can I receive calls when locked?

Try using TealLock's "Allow app to run when locked" feature to permit your phone's dialing application to run. See **Locking/Unlocking Options** above for more information.

Compatibility

Is TealLock compatible with PalmOS 5?

Yes. TealLock is fully compatible with PalmOS 5 and handhelds running ARM processors like the Tungsten T. Make sure you are running version 5.0 or higher.

Sometimes, I turn on my device and only a blank screen is showing...

An alarm going off or a conflict with the running program may have prevented TealLock from switching to the lock screen. The active screen or alarm dialog is probably active and waiting for a button tap, but its buttons have just been erased in preparation for the locking process. Try turning off the "blank screen" option in TealLock if this occurs. In TealLock 5, it is off by default.

Help. I seem to be noticing decreased battery life when running TealLock.

If you are trying a demo version of the program, be sure not to leave the TealLock waiting on the popup registration reminder screen for an extended period of time after activation, as the program sits in a loop here waiting for a pen tap, which can use battery life more quickly than when sitting idle in the main body of an application.

Alarms

My alarms or snooze messages do not show when the handheld is locked.

Are you encrypting the Datebook or ToDo databases? When a database is encrypted, it is protected from access to safeguard the data, so the Datebook application cannot access it. When TealLock detects a Datebook alarm with an encrypted database, it will sound and show a substitute alarm screen. Datebk5, however, may also expect the ToDo database to be unencrypted as well, and may not display snooze messages if the ToDo database is encrypted.

Under TealLock 5 and PalmOS5, the datebook will show alarms as "Private Appointment" when the handheld is locked. This is standard functionality also found in the standard security app and part of designed PalmOS locking behavior.

Encryption

What kind of encryption does TealLock support?

TealLock supports a number of different encryption types, from a simple fast encryption method to industry-standard 128-bit Blowfish encryption. On a Tungsten C, RC4 is also available.

How to I Restore Encrypted Records after I reset?

If the Palm is reset while on the Palm locking screen, TealLock will fall back to the system security screen. When this is unlocked, TealLock will automatically launch and decrypt the encrypted records. If for some reason, a conflict with installed "hack" extensions, for instance, TealLock is not able to decrypt the records, simply relock and unlock under TealLock to restore your records. Do not change your password before doing so and do not run other programs that may try to access the encrypted records, as they may either crash or modify the encrypted data, preventing it from being decrypted properly.

Flash Memory

Can I put TealLock in flash memory or extra protection?

Yes. We do not recommend using this feature for most people, but it has been included for customers with specific needs in this area.

See the manual on how to create a "settings file" to snapshot your current settings. To put both into non-removeable flash memory (if present on your device), use a utility like FlashPro from TRG. Note that you cannot put TealLock into a *removable* flash card because it must stay connected to the system to remain functioning.

I can exit the locking screen on a Visor by inserting a flash memory card

If you are running Launcher III, this is a bug in that program, which hijacks the system when a card is removed. We've found that it even bypasses the standard Palm Security's lock screen, and does so if Launcher III is installed, regardless of whether it is activated as the default launcher. Programs which inadvertently leave files open on the expansion card can cause this behaviour.

Site Licenses

How can I obtain a licensing information for TealLock Corporate Edition?

Please email our Corporate Services Department at corporate@tealpoint.com. Site licenses are available for 50 or more customers. Download the latest version from our Corporate Edition information page at <http://www.tealpoint.com/corpllock.htm>.

Appendix E - Products

Visit us online for our complete product line, including:

TEALAGENT (<http://www.tealpoint.com/softagnt.htm>)

A PC-based Palm data converter, installer, and web clipper which formats local, network, and web-resident data into standard Palm formats.

TEALALIAS (<http://www.tealpoint.com/softalia.htm>)

Making the most of expansion memory, TealAlias creates placeholder alias files that automatically find, load, and launch apps and data from external SD cards, freeing precious main memory.

TEALAUTO (<http://www.tealpoint.com/softauto.htm>)

The complete automobile mileage, service, and expense tracking program, TealAuto supports unmatched features and customization options.

TEALDOC (<http://www.tealpoint.com/softdoc.htm>)

Powerful reader for Palm documents, e-books, and newspapers, supporting advanced features such as pictures, links, and flash cards.

TEALECHO (<http://www.tealpoint.com/softecho.htm>)

Digital "ink" lets you see what you write, vastly increasing graffiti writing speed and accuracy. No more writing blind!

TEALGLANCE (<http://www.tealpoint.com/softglnc.htm>)

Pop-up utility shows time, date, appointments and to-dos, and other useful information at power-up. See your day at a glance.

TEALINFO (<http://www.tealpoint.com/softinfo.htm>)

A system for creating and displaying interactive databases, reference works, and mini-application folios; a handheld reference library.

TEALLAUNCH (<http://www.tealpoint.com/softlnch.htm>)

A pop-up application launcher and mapping utility for launching apps and special functions from pen taps, graffiti strokes, or button presses.

TEALLOCK (<http://www.tealpoint.com/softlock.htm>)

Secure automatic locking program with optional data encryption and numerous activation and customization options.

TEALMAGNIFY (<http://www.tealpoint.com/softlens.htm>)

An ever-ready magnifying glass that works with most any program, TealMagnify saves your eyes when looking at tiny text.

TEALMASTER (<http://www.tealpoint.com/softmstr.htm>)

A supercharged Hackmaster replacement with 100%-compatibility and enhanced stability, configuration, diagnostic and activation features, and PalmOS 5.0 support.

TEALMEAL (<http://www.tealpoint.com/softmeal.htm>)

A personal restaurant database and selection wizard. Keep a database of your favorites and easily find them by type or category.

TEALMEMBRAIN (<http://www.tealpoint.com/softmemb.htm>)

Memory monitor and stack manager which helps identify conflicts and greatly improves stability running multiple hacks and drivers.

TEALMOVER (<http://www.tealpoint.com/softmovr.htm>)

File management utility for beaming, deleting, renaming, and copying files both in memory and on VFS-compatible storage cards.

TEALMOVIE (<http://www.tealpoint.com/softmovi.htm>)

High-quality multimedia system with video and synchronized sound. Includes audio/video player

and Windows AVI/Quicktime converter program.

TEALNOTES (<http://www.tealpoint.com/softnote.htm>)

Insert freehand graphic "Sticky Notes" into memos, to-do lists, address book entries--almost anywhere you currently have editable text.

TEALPAINT (<http://www.tealpoint.com/softpnt.htm>)

The most powerful paint and sketch app on Palm OS handhelds, featuring 16 tools, 16 patterns, 12 brushes, color, and desktop image conversion.

TEALPHONE (<http://www.tealpoint.com/softphon.htm>)

A powerful Address Book replacement with superior interface, display, search, and indexing options.

TEALPRINT (<http://www.tealpoint.com/softprnt.htm>)

The all-in-one text and graphic printing solution for Palm OS, supporting infrared, serial, and HotSync printing to any Windows printer.

TEALSAFE (<http://www.tealpoint.com/softsafe.htm>)

A personal encrypted data vault and wallet for computer passwords, credit card numbers, calling cards, software registration codes, PIN numbers, bank accounts, business contacts, journal entries, or any other sensitive information. A must for features and security.

TEALSCRIPT (<http://www.tealpoint.com/softscrp.htm>)

An improved, tunable, Graffiti replacement that supports custom strokes, macros, better accuracy, and full screen writing under OS5

TEALTOOLS (<http://www.tealpoint.com/softtool.htm>)

Six pop-up desk accessories, including a calculator, clock/stopwatch, preferences panel, editing panel, memopad, and a file/backup manager.

Appendix F - Revision History

Version 5.20 – January 19, 2004

- Added support for high-resolution TealPaint background images
- Added option to show background images in 16-bit mode
- Added option to cache background image for faster screen updates (takes more memory)
- Added support for 'Run while locked' option under OS5 handhelds and phones like Treo 600
- Added support for different system color schemes in lock screen title bar for devices with this option
- Fixed double lock screen when using PalmOS Graffiti lock stroke

Version 5.10 – October 28, 2003

- Added advanced option to allow select system popup windows when locked
- Fixed saving and restoring of owner text in settings and install files
- Fixed functionality of cut/copy/paste menus on owner text edit screen

Version 5.02 – September 10, 2003

- Added workaround for bug in PalmOS 5 causing occasional “free handle” errors
- Added fix for “launchDB” error when locking device without selecting encryption options

Version 5.00 – August 31, 2003

Encryption

- Added optional encryption of files on external SD/CF/MS storage cards
- Added selectable data encryption of files selected “by application” in addition to “by file”
- Added ARM-native fast blowfish encryption code
- Added support for enhanced RC4 encryption on devices with PalmOS CryptoManager library (Tungsten C)

Security

- Added 'booby trap' password option for data self destruct
- Added masking control to program screen
- Added shortcut stroke for masking
- Added support for locking/hiding after specified amount of inactivity (activates after power off)
- Add system support to lock out OS popup windows (SysUIBusy) to lockout bluetooth, WiFi, etc.

Passkey entry

- Added support for mapping Palm 5-way navigation buttons to keys
- Added option to hold quick password countdown on key entry or pen tap
- Added option to ignore initial wake-up key (which tended to invalidate quick password entry)
- Added option to turn off key mapping for specified or all keys

Appearance

- Added vastly improved and more intuitive configuration interface
- Added option to display clock in title bar
- Added color to battery indicator
- Added visual indicator for quick password key entry
- Added option to preset private record state control on lock screen
- Added scrolling support to locking help screen

- Added sorting, button support to database selection lists
- Fixed date/time clipping border (if on) on lock screen

Compatibility

- Added support for accessing phone app on Treo phone when locked (via unlock-to-run feature)
- Added support for accessing dialing app on Kyocera Smartphone when locked (via unlock-to-run feature)
- Fixed Sony CLIE 16-bit mode screen crash
- Added support for using standard system owner text
- Added warning in shortcuts screen for shortcuts which conflict with system text shortcuts
- Added detection and warning if standard autohiding/locking is active
- Fixed handheld timing out after prelock timer
- Fixed backspace-mapped keys to reset graffiti shift

Version 4.70 - November 29, 2002

- Fixed encryption of large records with Blowfish

Version 4.65 R2 - November 18, 2002

- Fixed masking of passwords under PalmOS 3.0 and 3.1
- Fixed disabling of datebook alarms after encrypting datebook database

Version 4.62 - November 9, 2002

- Fixed timed activation on Tungsten T handheld

Version 4.60 - September 29, 2002

- Added optional 128-bit Blowfish encryption
- Added two additional encryption database entries (total 6)
- Added hires support for Sony CLIE
- Added shadowing of datebook alarms to give notification event when Datebook database is encrypted
- Added optional "timer prelock" to lock the unit before manual power-on when using delayed locking modes
- Added (fixed) support for "inverted" operating time range for auto lock/hide
- Added check and automatic disabling of conflicting system security auto-locking feature under PalmOS 4.0
- Added stability checks to make quick passkey entry robust to non-character key codes
- Added hires icons for OS 5.0
- Added "ENC\$" prefix to databases when encrypted
- Added support in corporate edition for "magic bullet" uninstall file to ease upgrading to future versions
- Improved robustness for recovering encrypted data if unit reset while encrypted
- Changed password masking character to asterisks
- Fixed premature timeout of quick password when powered off or system virtual key received
- Fixed check for password expiration to prevent same password from being reused

Version 4.10 - February 14, 2002

- Fixed returning to last app when using guest password
- Fixed app switch lockout after alarm until power off
- Fixed screen blanking on alarms over locking screen
- Fixed automatic masking of private records
- Fixed password expiration dialogs disappearing off screen too quickly
- Fixed password expiration countdown when powering off
- Fixed install file conflict with some third-party apps (Corp Ed)

Version 4.05 – January 21, 2002

- Added compatibility with hacks patching system launch command
- Fixed returning to previous app when using quick password
- Fixed conflict preventing installation in flash memory
- Fixed turning off of unit when using PalmOS 'lock and off' pen stroke

Appendix G - Credits

Manual by Vince Lee, Sara Houseman, Heather Stark, and Diane Dybalski

Appendix H - Contact Info

TealLock by TealPoint Software
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TealLock for PalmOS
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San Rafael, CA 94903-3618

Please visit us at www.tealpoint.com, or email us at support@tealpoint.com.
We look forward to hearing from you.

Appendix I - Registering Standard Edition

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 (\$19.95 US standard edition, \$24.95 corporate edition). No international checks or money orders please.

Appendix J - Registering Corporate Edition

TealLock Corporate Edition features special administrator access functionality, and is available for site license customers. For 50 or more users, a customized version of the program is available with a single registration key for ease of installation. For more information about obtaining a site license for your business or institution, email corporate@tealpoint.com.

For trial or for offices with fewer than 50 users, individual copies of TealLock Corporate Edition are available for \$24.95 per copy. Individually keyed for each handheld, they may be purchased online at <http://www.tealpoint.com/corblock.htm>.

Appendix K - Disclaimer

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