

PAT Testing on Palm (POP)

Introduction and Installation instructions

Issue 3: August 2004

NOTE

The term *Palm OS handheld* refers to handheld devices, from any manufacturer, which operate under the PALM OS operating system: this operating system has been developed by and is owned by Palm, Inc. Throughout this document the word *handheld* refers only to hardware which uses this operating system. Please refer to the **Trademarks** chapter for details of the terms and phrases which are registered trademarks

NOTE

This software is intended to run on a single PC and will support one or more handhelds, as licenced. Any attempt to operate the software on two or more PCs will result in data corruption.

ADVICE

It is strongly recommended that some familiarity with the handheld is gained before this software is loaded and used. In particular, learn how to use HotSync, the handheld's screen-based keyboards, menu selection and, for the serious user, Graffiti.

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OVERVIEW

What is PAT Testing for Palm OS® (POP)?

POP provides facilities for recording appliance details and test results during portable appliance testing.

The software can be used with any Portable Appliance Tester ...

- testers which are simple Go/NoGo devices
- testers which display test results but do not store them
- testers which store and download test results
- *visual-only* inspections

POP consists of two modules, one for a Palm OS handheld and a companion module which runs on a PC under Windows®.

If a suitable printer and infrared adapter are available, the test certificate and defect reports can be printed directly from the handheld before leaving site.

The data collected on the handheld can be transferred to the PC module for certificate printing, defect reporting and long-term storage. This data transfer can take place by connecting the handheld to the PC and running the HotSync operation: by means of an SD (memory) card: or by email.

The primary advantages of using the handheld are that ...

- full details of new appliances are captured at the time of test
- appliance locations are automatically updated
- data returned to the office is complete in all respects
- office processing time is virtually nil

These are major benefits which can reduce the time required to complete the testing cycle, in particular the manual recording of new appliance details and the entry of these into the PC.

Palm OS handhelds have been designed, from the outset, for data collection and display for those with a mobile lifestyle. Particular attention has been paid to speedy and effective data entry methods, most of which are used in this product.

Handheld operations

HotSync™

A handheld's memory holds programs (applications) and data. On delivery, a handheld has a number of standard applications, such as *Address Book* and *Date Book*: these are synchronised with companion programs on a PC by means of an operation called HotSync.

The PC programs with which these synchronise may be MicroSoft Outlook or the program delivered with the handheld called Palm DeskTop. Outlook and DeskTop create separate databases for each handheld supported by the PC. This prevents the diary for handheld user Tom, for example, including events affecting only handheld user Harry.

HotSync's synchronisation of these databases ensures that the two copies of each – PC and handheld – are identical.

As described in the topic **Data collection on site**, HotSync does not ensure identical copies of **POP**'s data in the two locations: instead, it copies user-selected sites from PC to handheld and site test results from handheld to PC.

In addition, HotSync automatically creates a backup of a handheld's data in PC folders *Backup*, one folder being created for each handheld. If it is necessary to reinitialise the handheld for any reason, the Palm operating system will automatically restore the data which has been archived. The exact locations of these folders are described in the handheld's User Manual. The Backup includes **POP** data held on the handheld.

HotSync is initiated very simply by pressing a button on the handheld's cradle or cable, or by tapping an option on the handheld screen.

POP data transfer: PC to handheld

Prior to attending site, a test engineer's handheld can be loaded with details of that site and of any appliances which have been previously found at the site. The PC module is used to select the site or sites which the engineer is to visit. When the engineer's handheld is next HotSync'd, this data is copied to the handheld.

If a selected site has previously been allocated to another handheld and its data has not been returned to the PC, a warning will be displayed in case an error has been made. For large sites it is quite possible that more than one test engineer will be sent to site, so the software permits a site's data to be sent to more than one handheld.

Facilities exist in the handheld program for the engineer to set up new sites *on the fly*, removing the need to return to base to download these from the PC. **It is the user's responsibility to ensure that the names of these sites are unique.**

POP data collection on site

These are the tasks to be performed on site ...

- create new sites
- record details of new appliances
- record details of new locations
- update the locations of all appliances which are tested
- record test results
- delete details of appliances which have been destroyed
- optionally print a test certificate and list of defects
- send a site's details and test results to the PC
- delete the site from the handheld memory

New sites

If details of a new site have not been downloaded from the PC, the site can be created on the handheld.

New appliances

As each appliance is tested, its identity is tapped into the handheld's Testing screen and the program seeks the identity in the appliance details which have been HotSync'd down from the PC. If the identity is not found, it is assumed that the appliance is new and the engineer is presented with a screen on which he enters details of the appliance.

Update appliance locations

As an appliance is selected for the entry of test results its location is automatically updated. As the test engineer moves from location to location around the site, he selects the current location on the handheld so that the location of all appliances subsequently tested is automatically updated.

New locations

If, when selecting the location in which testing is to be carried out, that location is not found, a facility is provided to add that location to the database.

Record test results

Test results of four types can be entered into the handheld.

- visual inspections, where no electrical tests are carried out
- visual inspection and a Go/NoGo electrical test result where an appliance tester provides no detailed test results but just gives an overall assessment
- visual inspection and individual measured test results where an appliance tester has no storage capability
- visual inspection and individual measured test results where an appliance tester has a storage capability but the user wishes to reduce the overall time taken for testing and subsequent data processing

Missing appliances

On completion of testing, any appliance whose details have been sent down by the PC and not tested will be assumed to be missing – replaced or just destroyed.

Given that printing facilities are available, see below, a list of these appliances may be printed for review with the customer. Any which is known to have been destroyed can then be removed from the handheld database and will, after the site's data has been closed and HotSync'd to the PC, be removed from the PC database.

Alternatively, after the data has been returned to the PC, a list of appliances which have not been tested may be printed and deletion carried out on the PC.

Printing documents

Printing may be carried out directly from the handheld so long as the printer is supported by the software and it has an infrared port adapter. The adaptor consists of a Centronics connector, which plugs into the printer, and an infrared receiver. The handheld's infrared port is pointed at the receiver before the print command is given.



The test certificate and lists of failed and missing appliances may be printed.

Send site to PC

The site's details and test results may be sent to the PC in one of a number of ways including the standard HotSync operation and the use of an SD memory card – with or without email.

Delete the site

This operation removes the site and its details from the handheld memory. The operation should only be used when it is known that the data has been successfully integrated into the PC database by the *Send site to PC* operation.

When data has been selected for transmission to the PC using the HotSync operation, the actual transfer takes place at the next HotSync.

Data transfer: handheld to PC

When data has been selected for transmission to the PC using the HotSync operation, the actual transfer takes place at the next HotSync.

Using SD memory cards

An SD card is a memory card which can be plugged into most Palm OS handhelds. When an SD card reader is connected to a PC, the card acts like an additional disc drive and can be accessed with programs such as Explorer.



If it is wished to send a site to a remote engineer by post, say, an *Export* operation transfers a copy of the site's data to an SD card which can then be sent to the engineer. If the engineer's handheld has integral email facilities or can be linked to a mobile phone with an infrared port, the data can be emailed to the engineer. Data can also be transmitted in the reverse direction.

The PC and handheld modules both have code allowing site and appliance data to be written to an SD card and read from an SD card.

For maximum flexibility, the data is written to a text file in CSV format (CSV = Comma separated values). This is an international format which can be read by a wide range of programs. With this capability, a user could collect data on a handheld, write it to a CSV file on an SD card and then import the information into his own software running on a PC..

In a CSV file each item of data is surrounded by double quotes and is separated from its neighbour by a comma, thus ...

“0000001234”, “Kettle”, “Kitchen”, ... etc

The format of the data in the CSV file is described in Appendix 2 of the pdf manual supplied on the product CD.

The use of an SD card to transfer data is one application of these memory devices.

Another is to take a *backup* of the handheld data during the working day. A site's data can be *exported* to the card and then, if required, it can be read back from the card. This would be particularly valuable if the handheld's battery were low on charge.

HELP!

The **POP** user is given several sources of guidance. These are:

- PC: an on-screen manual describing the whole product
- PC: Help displays for every screen
- Handheld: an on-screen manual describing just the handheld module
- Handheld: Help displays for every screen

Both on-screen manuals are delivered as PDF documents which are displayed and printed using the Adobe Acrobat Reader™ program. PDF, *portable document format*, is an international standard used for documents of all types. The programs required to read PDF documents, one for the PC and one for the handheld, are provided by Adobe Inc at no cost to the user. The CD from which this software was installed carries copies of each program and they are installed in accordance with the procedures described in the Installation Chapter.

Screen Help displays are called up by clicking (on the PC) or tapping (on the handheld) the **!** icon at the top right of the screen. This applies to both PC and handheld programs.

A PC, running Windows, can rapidly switch between programs, allowing both **POP** and its manual to be available. A handheld, running Palm OS, can only support one program at a time. Normally, this would make it difficult to switch from a **tap-it software** product and its manual. However, because **tap-it software** products always return to the screen from which they were last closed down, it is a simple task to get up-to-the-minute assistance.

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INSTALLATION

System Requirements

The PC must ...

- run Windows 95/98/ME/2000/XP
- have 50 Mbytes free hard disc space
- have one spare serial or USB port for the handheld connection – as specified by the handheld manufacturer

A handheld must ...

- run Palm OS version 3.5 or later
- have an 8Mbyte memory
- optionally have an infrared port for printing
- optionally have an SD card slot for data transfers

If the exchange of data between handheld and PC is to be carried out by emailing a transfer file held on an SD card, it will be necessary to have a mobile phone which will link to a handheld and a suitable email program running on the handheld.

PC installation

General remarks

Two products must be installed on the PC - the software supplied with the handheld, called Palm OS, and **POP's** PC module.


Instructions for installing Palm OS Desktop program are provided by the handheld manufacturer.

PLEASE NOTE that the handheld's Address Book, Date Book, Memo Pad and To Do List can either be synchronised with MicroSoft's Outlook or with Palm's PalmDesktop. The selection is made during the installation of the PalmDesktop software.

The name to be given to the (first) handheld is also required. The names of additional handheld users are set up from within **POP's** PC module.

Installation

Follow this sequence ...

1. Load the Palm DeskTop software from the CD provided with the handheld.
2. Load the **tap-it software** CD
3. The installation should run automatically but if it does not do so, select *Start/Run/Browse* and locate the file named *setup.exe* on the CD.
4. Follow the instructions which are displayed, entering the user's details when prompted to do so.
5. If the CD carries a 30-day evaluation of the software enter the word EVALUATION when asked for the Serial Number, otherwise enter the Serial Number which will have been provided on delivery of the software.
6. On completion of the installation process, remove the CD and restart the computer.
7. The **POP** icon will be displayed on the desktop and a program group will have been created containing these options ...

 - **POP**
 - **POP** Manual (this document)
 - Uninstall POP

In addition, the software to be downloaded to the handheld(s) will have been stored on the computer's hard disc.

An evaluation copy of the software can be registered by running the installation again and entering the serial number which will have been supplied by phone or email.

Handheld installation

These instructions cover the installation of the handheld **POP** module, the Palm OS version of Acrobat Reader and the handheld version of the **POP** PDF manual

The POP handheld module

This software is loaded on a handheld by the PC **POP** program.

Follow this sequence ...

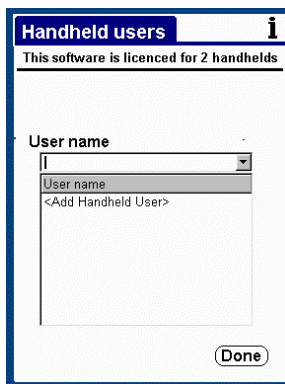
1. Run **POP** on the PC
2. When the Main Menu is displayed, select the *Handheld Management* option
3. From that menu select the *Handheld User details* option to register the name given to the handheld when the *Palm OS* software was installed. **NOTE IT IS ESSENTIAL THAT THE SPELLINGS OF THE HANDHELD USER NAME ON THE HANDHELD AND THE PC ARE IDENTICAL.**

To display the handheld name, tap the word at the top right of the handheld screen – probably *Main* – and select the *All* option. Then look for the HotSync



icon: Tap this and look at the top right of the handheld screen. You'll see the name given by you to the handheld.

4. Click the dropdown. If no users have been registered, as will be the case immediately after installation, the drop-down will have only one entry ... <Add Handheld User>



5. Click this entry and enter the handheld name. If this is the first name, take care to enter it exactly as entered on installing the *Palm OS* software. If this is a second or subsequent handheld, it will be registered with **POP** and also with the *Palm OS* operating system.
6. Select *Save*
7. **NOTE THAT** the **POP** is initially licenced for only one handheld. If additional handhelds are to be used, the software must be configured for these. (See *Software Options*, below for an explanation of this process.) The *Handheld Users* screen shows the number of licenced users at the top.
8. Select *Done* to return to the *Handheld Management* menu.
9. From this menu select the *Load software on handheld* option
10. A warning message is displayed stating that several windows will be displayed during the preparation of the data to be sent to the handheld and warning that these should be ignored.
11. When the data has been prepared, a window is displayed requesting the selection of the handheld user name. Make that selection from the drop-down list.
12. Place the handheld in its cradle, or connect it to its computer cable, and initiate the transfer of the program (an operation called *HotSync*)
13. The transfer will take several minutes, during which the handheld screen will list the program elements as they are copied across. On completion the handheld will display *HotSync operation completed*.
14. The handheld now contains the POP software and the



POP handheld icon will be seen on its screen in the *All* and *Unfiled* menu selections. It is recommended that POP be moved to the *Applications* menu: the handheld's manual explains how to perform this task.

15. The handheld now contains the software and is ready for use.

- To complete the installation, close down Electrical Inspector on the PC and restart the computer.

Palm OS provides a number of menu screens so that programs of similar types may be grouped on the same menu. Each menu is called a *Category* and facilities are provided for placing each program in the appropriate *Category*. Full instructions for setting categories will be found in the handheld user manual.

It is suggested that **POP** and the Acrobat Reader are both assigned to the *Applications* category.

The handheld is now ready for use.

Acrobat Reader for Palm OS

This is loaded on the handheld, with the **POP** module, during the sequence described above

Installing the handheld PDF manual

Adobe provide a special program for loading documents in PDF format on to a Palm OS handheld. This is installed on the PC's desktop and has this icon.



Tapping the icon brings up this window. Although the window has a number of controls, only two are used.

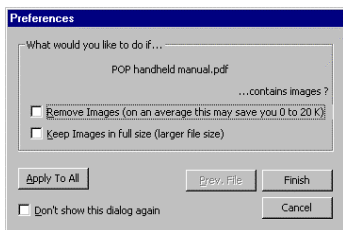
On the right, below the heading, is a User Name drop-down. Select the User name for the handheld which is to receive the manual.



Click the button on the left with the caption *Add PDF to transfer list*.

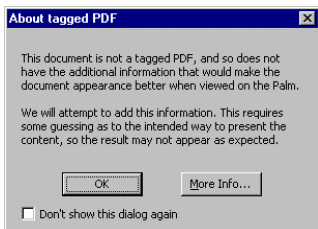
This brings up the familiar file selection window. Select the file called *POP handheld manual* which will be found in the folder holding the **POP** software.

This window is then displayed. Clear the option which removes images from the manual sent to the handheld and click *Finish*.

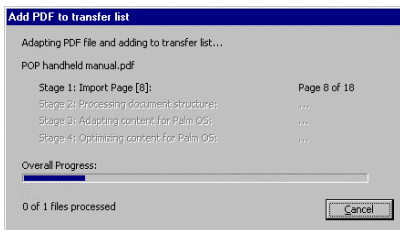


This is the final window in the selection sequence. Ignore its message.

Click the **OK** button to start the operation which converts the PDF format manual into the format required by the Palm OS.



This window shows the progress through the conversion operation, which takes no more than a minute or so.



When the conversion is complete the manual will

be seen to have been added to the list of files to be sent to the handheld.

To be transferred to device	Size (on device)	Images
POP handheld manual.pdf	160K	Removed

To do this, connect the handheld to the PC by cradle or cable and start a HotSync. On completion this list of documents will be empty.

Handheld Printer setup

If handheld printing has been enabled, following the instructions described later in this Chapter under *Software options*, it is necessary to select the handheld's default printer. **POP** includes drivers for all supported printers.



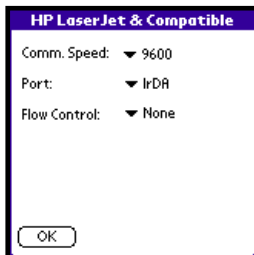
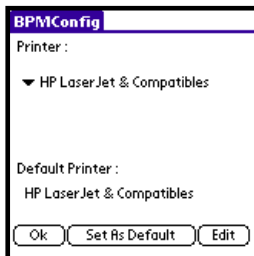
PrintSetup

Tap the *PrintSetup* icon. This brings up the screen used to select the printer.

Tap the *Printer* drop-down and choose the printer to which the infrared adaptor is to be connected.

Then tap the *Set default printer* button to set that printer as the default.

Tap the **Edit** button to set the characteristics of the link between handheld and printer. Select each of the drop-downs in turns to set the values shown in this screen shot. As it is possible that the settings may vary between handheld models and/or printers, up to date information will be made available on web site custom.co.uk. Tap **OK** to close this screen and **OK** again to close the printer configuration program..



Software options

General remarks

Some features of the software are optional and may be purchased.

There are two options: these are ...

- support for additional handhelds – on delivery the software supports only one handheld
- the ability to print directly from a handheld.

For full details of the optional features and their cost, please visit **CUSTOM**'s web site – www.custom.co.uk

Enabling the options

1. Run **POP** on the PC
2. From the Main Menu select the *System Management* option.
3. From that menu select *Option Management*: this screen will be displayed.
4. Note the two *System Codes* and pass these to **CUSTOM** together with details of the optional features required and payment for these.
5. Having noted the codes, click the *Cancel* button to close down the software.
NOTE THAT the software may continue to be used whilst awaiting the *Unlock codes* from **CUSTOM**
6. When the *Unlock Codes* are received, select the *Option Management* option, as described above, and enter the *Unlock codes*. In some cases, only code 1 will be received: in others codes 1 and 2 will be supplied. This is a characteristic of the encryption system used to protect the option configuration system.

Option Management ⓘ

Tap-it
SOFTWARE

System codes

Note these codes and pass them to CUSTOM

A: 296923995
B: 1

Unlock codes

Enter here the unlock codes received from CUSTOM

1:
2:

Cancel OK

7. After entering the codes click the *OK* button. The system will be updated and will then close down. On next running the software the requested features will have been enabled.
8. An enabling code will be sent to the handheld at the next HotSync so long as the PC module's HotSync screen is displayed. (See page 16).

CONTACTING TAP-IT SOFTWARE

Address	CUSTOM Maintenance Systems Premier House 11 Marlborough Place Brighton BN1 1UB
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Web site	http://www.custom.co.uk

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