

# Palm/Palm Pilot: Personal Experiences and Tips

## Contents

- [Introduction](#)
- [Impressions](#)
- [Installation Bugs](#)
- [Resource Consumption](#)
- [Using COM3 for Synching](#)
- [IR HotSync with Windows 2000](#)
- [Security](#)
- [Software](#)
- [Backups and User File Versioning](#)
- [Palm Desktop 4.0](#)
- [Palm Security](#)
- [Palm V/Vx Problems](#)
  - [Palm Vx Lithium Battery Life Expectancy](#)
  - [Cannot Hot Sync: No User Identified](#)
  - [Palm V/Vx Travel Kit Problems: Defective Design](#)
  - [Palm V/Vx Power Switch Failure \(EasyLaunch\)](#)
  - [Broken Vx Cradle Tabs](#)
- [Palm IIIxe: A Sad Story](#)
- [Synchronizing with Outlook/Exchange](#)
- [Input](#)
  - [Styli](#)
  - [Keyboard](#)
- [Wireless Wide Area Networks \(WWAN\): Novatel/Minstrel](#)
- [WWAN Communication and Cell Phones \(incl The Dark Secret ...\)](#)
- [Palm Disappointments: Wrong Turns](#)
- [Wishes](#)
- [Palm Resources](#)
- [Repairs, Service and Support](#)
- [History](#)
- [Footnotes](#)

rev: 30 June, 2002

---

## Introduction

A resource page for Palm OS based devices (device formerly known as the PalmPilot<sup>[11]</sup>) based on my personal experience. It will be of most interest to non-developer heavy users of the Palm and licensee devices. **Before you buy a Palm device from Palm Inc (versus [HandSpring](#) or [SONY](#) for example) be sure to read [Palm IIIxe: A Sad Story](#).**

As of May 2002 SONY makes the most interesting Palm devices and HandSpring the most interesting Palm/Phone device.

## Impressions

The Palm III, made in the USA, was a groundbreaking devices. It was reliable, relatively inexpensive, the right size (actually the Palm Vx is the right size, the Palm III is close), and had market share. The integration of the built-in applications with the desktop was decent, although add-on applications had weak or non-existent desktop equivalents. Battery life was quite decent, and I found Grafitti acceptable,

especially with non-standard Grafitti strokes from the O'Reilly text - [PalmPilot: The Ultimate Guide](#) for enhanced recognition. Only the 2MB of memory was inadequate.

Unfortunately that was as good as it got (see also [Palm Disappointments: Wrong Turns](#)). By late 2001 the PDA was stuck as a niche device, and usage was probably declining. Since the Palm III devices have been much less robust, with higher defect rates. Production moved overseas, and quality decreased quickly. Many adopters of PDA devices were reluctant to learn Grafitti or the simpler PocketPC equivalent, and used them as read-only devices. Unfortunately in as read-only devices they do not replace paper planner systems, and most users abandoned them. PocketPC devices were far more powerful and expensive, but battery technology could not keep up with memory and CPU demands. Wireless efforts have also run into battery issues, as well as failed business models. PocketPC devices have the same data entry problems as Palm devices, and they are even less reliable. The PocketPC does not replace a laptop, but it costs about 60% of the falling costs of low end laptops. The cost comparison is worse than that really, as the PDAs have short lifespans (broken, lost, poor durability, etc). From my own experience I think 2 years is a pretty decent life for a PDA and its accessories.

The screen is readable on the Palm III, much better on the later models (Palm IIIe, IIIx, V). Performance is remarkably mediocre, which is consistent with excellent battery life. The OS is single-threaded and only one application runs at a time, but it was based on a true Real-Time Operating System ([Kadak's AMX](#) multitasking kernel - a Canadian company. This is a bit of a secret, by the way). In contrast to the document-centric approach of the Mac/Newton, etc, this is a very DOS-like environment. You choose your application, then you work with the application's data. There's no hierachical filing system; an item can be assigned to a single category, which provides some directory functionality.

The built-in applications are somewhat limited, but well designed. Linkages are very limited between applications. Desktop synching works well with the pure Palm interface, but [synching with Outlook](#) can be a nightmare.

Eventually the PDA/Palm market will regroup and try again. Ultimately the Palm, in addition to being an auxiliary memory store, will replace the wallet (biometric identification with public-key encryption technology [\[9\]](#)), the phone [\[6\]](#), the key [\[8\]](#), the paper back and the walkman/radio. It will just take longer than we thought it would in 1998.

## Resource Consumption (desktop)

- HotSync Manager uses 4MB of DRAM, so folks like me who watch their RAM will not want it to autostart).
- Palm Desktop uses 5MB DRAM
- Installation uses 10 MB drive space

## Using COM3 for Synching

Both of my COM ports are occupied for use with my modem. I didn't want to unplug cables, so I installed an old 8 bit ISA serial card. I set the card COM ports for COM 3 (shares IRQ4 with COM1) and COM 4 (shares IRQ3 with COM2). [I was unable to use other IRQs with this card under Win95, even though I could under DOS.]

My PnP BIOS did not recognize the new device. I used the Add Hardware control panel to add new serial ports. I did not allow Win95 to search for the devices.

After restarting, I installed the Palm software. It found my Palm III on COM 3 (make sure it's on). I can HotSync without any problem, but I cannot use my modem at the same time as I HotSync. To avoid conflicts I set HotSync Manager so that I have to start it manually, it does not startup with the system start.

Below are the COM/serial port resources used. This information is surprisingly hard to find on the Net; however these are the age-old (DOS 3.x) mappings for multiple COM ports. Note that IRQs (interrupts) are shared but i/o addresses (hex, memory) are distinct. I believe you will have problems if you try to use two serial devices that share the same interrupt at the same time; this arrangement works best when serial devices are used intermittently. (The pathetic interrupt limitations that we experience still are a direct descendant of the first IBM PC.)

### Resource Utilization by COM Port

COM	IRQ	i/o port
COM1	04	03F8-03FF
COM2	03	02F8-02FF
COM3	04	03E8-03EF
COM4	03	02E8-02EF

## IR HotSync with Windows 2000

After years of failure I actually got IR HotSync working with a laptop. To say the least the industry's litany of problems with implementing the IRDA spec bodes ill for Bluetooth!

It is working with a Micron TransPort ZX PIII running Win2K SP2 with HotSync Manager 4.0 and PalmOS 3.5.3. This laptop was configured with COM2 disabled, I had to enable COM2 in the BIOS (auto) and restart. Windows 2000 then installed the Wireless Link control panel.

There are two important things to remember with Windows 2000 IR support:

- In the Wireless Link control panel you must disable the Image transfer (from camera) function. Otherwise the IR port is not available.
- Beam receive should be set to off on the Palm, otherwise the Palm reacts to a signal emitted from the laptop IR port and interprets in incorrectly.

## Security

I think the built-in security features are inadequate. Even a shortcut to hide/show/mask private records would be an improvement. I use [TealLock](#) instead.

If you use the built-in security feature with [TealLock](#) as follows

- set everything of value to 'private'. In OS 3.5 you can "mask" private items. This is a big improvement, in the past a private appointment wouldn't display, and since I rarely turn on viewing of private items it was basically invisible. The masking feature alone is worth the 3.5 upgrade, but few people seem to have noticed it.

- always hide private (but it's easy to forget to rehide, [TealLock](#) automatically hides every time the Palm powers up)
- use a long inconvenient password for the base security system (combined with a quick lower security one for [TealLock](#))
- usually leave the Palm unlocked with private records hidden. (or locked with [TealLock](#) as a first layer of security)
- map the security application to a button (calculator) for quick access. (In OS 3.5 the security feature is present on most system menus, so this is no longer needed.)

## Installation Bugs

I discovered a fixed a bug that occurred during installation of my Palm III under Windows 95. This has hopefully been fixed since 1998.

During installation of the Palm Desktop, the user may change the installation path from the default of c:\palm. I changed mine to h:\apps\palm\. NOTE the terminal backslash! That is a correct DOS path, but the Pilot installer cannot handle it.

I figured out the bug when looking at my log book found an error message of the form: no log found at h:\apps\palm\john. Note the double \\!

To fix this I went into the registry using regedit.

- Registry key 'HKEY\_CURRENT\_USER\Software\U.S. Robotics\Pilot Desktop\Core' (see [US Robotics](#) for some history).
- There's a value called Path. It was incorrectly set to h:\apps\palm\. I changed it to h:\apps\palm and restarted my machine. I then deleted my user account from the Palm OS desktop, and recreated it.

After that synchronization worked.

## Software

Go to <http://www.pilotgear.com/> to download or learn more about most of these apps. This is what I've currently paid for, or am evaluating and expect to purchase.

### [AvantGo](#)

No frames, no cookies, uses a proxy server. Can't copy text from pages one views (annoying).

Simple tables and forms are ok. See also a presentation (earlier versions) on [using AvantGo with the Palm III](#).

### [DateBk3/4](#)

A superb replacement for the built in date book. This application was licensed by [HandSpring](#) and it is the foundation for the Calendar+ application.. A large application, but it shows scheduled ToDo events! Uses the Datebook and ToDo databases, so very compatible. As of 1/2001 I'm using DateBk4, which allows beaming appointments and categories of appointments. Potentially spouses can exchange schedules using this feature. DateBk4 seemed at first too powerful and cluttered -- it replaces all the standard applications --, but after only 2 weeks use I've already been assimilated. Please register this great product.

Users of the Franklin planner system can use the following 'custom icons' (A1, C2, etc), together with creating categories of the same name, to assign "Franklin Planner" style priorities to appointments and floating items. (See [icon library](#) and [icon editor](#).) Over time I have deviated from the Franklin definition of these categories. I use A1 and A2 for appointments that I want to see in the multi-day views (3 day to month) -- for those views I hide all other categories. A1 and A2, then, are *very important* appointments, and A1 appointments are immovable. I use B1 for important movable appointments, and C1 for the rest.

A1	006692f292970000
A2	006791f794970000
A3	006791f791970000
B1	00e692f292e70000
B2	00e791f794e70000
B3	00e791f791e70000
C1	00e6828282e70000
C2	00e7818784e70000
C3	00e7818781e70000

### [DiddleBug](#)

Simple sketch pad for quick notes. Set alarms for reminders. A free open-source product. Best feature is the ability to create a Graffiti note while looking at a sketch and have it transferred to another Palm app using Plug-Ins. Take it from a former BugMe user -- this feature is critical. I liked BugMe, but it seemed to me that sketches were mysteriously blanking and I need the DiddleBug's transfer feature. I tried CIC's QuickNotes, which is in some ways superior, but it there's only a 5 day evaluation period and it crashed my Palm within minutes of testing.

### **ePocrates**

My wife, who is in active medical practice, uses this "free" (marketing sponsored) drug information application. It is elegant and effective. I would assume that any information provided during registration will be used, and I assume (without checking) that they monitor what medications physicians review. Each device sync delivers various marketing messages, but they are tolerable so far. I would suggest using a junk email address (see [spam](#)) when registering.

### **Eudora EIS 2.0**

The email works quite well, haven't used the browser much.

### **JFile Pro**

I transfer limited data from my desktop FileMaker databases to JFile Pro. This is a good way to burn Pilot memory! Sorting and searching speeds are *vastly* better than earlier JFile version. I set databases to 'private', since I use OnlyMe to auto-hide private records I have to enter my system password to view them.

I like this \$10.00 security app from Tranzo. It auto-hides private records, and you can enter passwords using the hardware buttons, using a pen gesture, using screen image buttons, or by Graffiti. It activates every time my Palm powers down (optional delay time), but password entry is very quick. Best of all, the standard security application is still active; with a pen gesture I can enable that too for a double layer of security. Installed is 37K. *Problems:* OnlyMe interferes with the on/off button and the backlight on functions of the Palm Vx; even if I turn it off I sometimes can't get them to work. This seems to be due to some bugs with their method for preventing unwanted password attempt activation.

### [OnlyMe 2.15](#)

See [Palm Security](#).

### PocketMirror Professional 3.0

See [Synchronizing with Outlook/Exchange](#)

### RPN

Basic RPN calculator.

### TealLock

[Palm Security](#)

### TealPaint

Decent sketching tool. Works better if you use options to assign TealPaint functions to the Palm buttons. Clunky process for moving sketches to desktop needs to be improved.

### [WordComplete](#)

A utility by CIC, who also make [Jot](#). Guesses words based on initial string. I have it set to only start guessing at 3 characters, and only for words of 6 characters or more -- otherwise it just cluttered the screen. It's a *great* timesaver.

## Rejected software

Software I've used and give up on or have set aside for now.

### GoAmerica

I tried this one with the Minstrel V wireless modem. I'm not sure what software caused the problem, but whenever I launched Go.Web the GoAmerica home page would appear ... then lockup. I was very unimpressed by their password-protected web site -- the site didn't work!

### [Intellisync](#)

I struggled with this software for about two years before I finally gave up on it (see [Synchronizing with Outlook 2000](#)). It's very buggy, the support site is very weak, and PumaTech essentially charges for bug fixes. I've lost count of how many Dr. Watson's this thing has given me. Of course Outlook/Exchange is such a nasty environment the fault is probably Microsoft's -- but Pumatech took my money.

### Jot

Probably fine if you don't know Graffiti, but you still have to learn to form some letters correctly. If you know Graffiti there's no advantage and data entry seems a bit slower (fewer built-in shortcut letters that I know of).

### [pdQsuite](#)

Includes a quite decent email package that works with my desktop Eudora email, and a very simpleminded browser (no tables, no images, simple forms) that is pretty quick. I may try this again, but for now I'm not doing email on my Palm.

## Backups and User File Versioning

Every time you sync your palm you create a backup. That sounds fine, especially if you also backup your desktop data files. Except ....

It's very easy to make a major editing error on the Palm, such as replacing all text in a memo with a single character. When you do this you will usually discover that the undo function that's present on all Palm menus usually doesn't work. If you don't notice your error and sync with your desktop you will overwrite the desired memo on your desktop. Imagine if this memo contained vital information ...

It's not at all convenient, but I recommend creating versioned backups of your desktop files. This is really a problem that Palm should address in the desktop application, but they have [other bigger issues](#).

## Palm Desktop 4.0

This is the January 2001 version of the Palm desktop. It has some new views and a prettier layout, but it's slower and takes more system resources. The major issues, however, is that Palm's web site says this version is for **their devices only**. I suspect that's true.

I wonder if this means that one can no longer move data from one Palm device to another? Even if the data formats do not change on the handheld, they could be altered on the desktop so as to prevent portability.

This is known as "data lock". You become locked into a vendor because they own your data's file format. Data lock, IMHO, is responsible for a great deal of Microsoft's power and fortune. Microsoft's lesson, that proprietary data formats is the key to wealth and power, has not been lost on other vendors.

### Moving Data Files

I like to keep my data files on a data drive that can be backed up independently of my applications. The Palm OS desktop supports this, but it's tricky. I had very bad experiences when I tried to move the data myself rather than letting the Palm desktop move it; when I moved the data the Palm desktop refused to recognize it.

1. Prepare the target directory where the data will go.
2. Start Palm OS desktop, it will use the current location.
3. In options, change the location of the data files.
4. The data files will be copied to the new location, then *deleted* from the old location. (So backup your data *before* you try this.)

## Palm Security

As best I can tell, the Palm OS and device was not designed with much attention to security. The built-in locking and private record features are awkward to use and are widely regarded as easy to defeat. A number of aftermarket products attempt to fill in the gaps, but Palm doesn't provide appropriate hooks for them to work correctly. Vendors have to hack the underlying OS, and reliability is a problem. Programs that encrypt data files, and thus protect data even if the Palm is breached, may be the best solution for now.

It's rumored that Palm will address security in Palm OS 4.0, but many Palm devices cannot be upgraded to that OS. (I would not assume that any Palm device as of March 2001 will work well with OS 4.0).

Some security applications that attempt to protect the entire device include:

- [TealLock](#) \*
- [OnlyMe](#) \*
- [Padlock Plus, PadlockHack](#)
- [PDABomb The Ultimate in PDA Security](#) (very new, but quite interesting)

\* I've alternated between using OnlyMe and TealLock. One or the other has worked with various versions of the Palm OS on the Vx. As of March 2001 I was getting intermittent "Memorymgr.c line 3036 chunk over-locked" that resolved when I switched from TealLock to OnlyMe, but for other reasons

I later switched back to TealLock version 3.70b. At the moment TealLock is working well. My main problem with OnlyMe was it's automatic lockout (hacker lock) feature -- it was being triggered accidentally when I carried the Vx. I think the author may have changed this; he is very responsive to user feedback.

## Palm V/Vx Problems

The V/Vx was a dramatic product when it debuted. Not surprisingly, it has some design problems.

### Palm V/Vx Power Switch Failure

The on/off switch (button) on the V/Vx (power switch, power button) fails after several months of use. I've had three Palm Vxs, every one failed. You have to push harder and harder to toggle the power status or the backlight. Eventually it becomes worthless. Among other problems, this makes it *impossible to do a hard reset!* A more subtle but everyday problem is that if your Palm blanks the screen while you're working, you can't use the power switch to return to your work. Instead you must use an application button, which switches one to the application. (Note if Palm cared about its users, they'd provide an OS patch that would cause one of the external application buttons to behave like the on switch if it were pushed when the device is off.)

So loss of the Vx power switch disables back lighting, you can't turn the device off (it will auto-off as per preferences), you can't do a hard reset, and you lose context when powering up from an application button.

At least one knowledgeable user thinks the problem is due to a small internal plastic tab that wears away. If one presses the power switch/button in the plane of the unit (eg. not directly towards the back of the unit) that the tab wears away quickly. If you have a working Vx, be careful to only press downwards, perpendicular to the plane of the unit, when using the power switch. I would advise using other methods (see below) to turn the unit off and on, and to use the power switch only when it is essential (for a hard reset, or when you need to maintain your work context when turning the unit on). The Vx power switch has a limited number of pushes in its life -- try to minimize them.

The erosion of this plastic tongue may be aggravated by dust around the switch; it may occur more quickly when a Palm V/Vx is carried in a pocket. Using a protective cover may reduce dust exposure and erosion. Some Palm users have discovered that blowing hard into the vary fine gap between the power button and the case can *transiently* restore some function to the switch. This does work for a while, and it can be critical if there's a need for a hard reset. It's a temporary fix though, eventually the tab wears so much that nothing works. Jan D. reports that sometimes if one wiggles the contrast button from side to side this may cause the power switch to work again, perhaps by moving the internal circuit board slightly. This is also a transient fix that will stop working.

There are several workarounds that partially help with a disabled power switch. Marc Abramowitz (mabramo at earthlink dot net) pointed me to [EasyLaunch](#) and Richard H pointed me to [ButtonOnHack](#) and [SleepStroke](#). (The first comes to us from the Czech Republic, the second from Japan, and the third from Thailand. Sometimes the Internet really does live up to the dreams of its creators.)

In preliminary testing of EasyLaunch and ButtonOnHack, used with X-Master (Hackmaster management), I've had no problems. Together with a pen motion for backlighting these utilities take care of the almost all aspects of the defective power switch problem (I doubt ButtonOnHack will support hard resets, but I don't dare to test this.). Even though I try to avoid Hacks because of the usual

complications of system extensions, these may be worthwhile for me.

### My current setup

- EasyLaunch and ButtonOnHack are installed with X-Master. All of these are freeware (!), Hynek Syrovátka, the author of EasyLaunch, likes to get postcards for a thank you. ButtonOnHack is the author's first foray into Hacks (Kitty Curry?!).
- Power on by pushing the Note button. Thanks to ButtonOnHack this behaves like a power on switch if the device is off, but like the usual application button if the device is on. It retains my context.
- Power off by EasyLaunch
  - Stroke from the silk screen application icon -> silk screen context menu icon: turn power off (but not lock, I use [TealLock](#) for locking).
  - Stroke from silk screen calculator icon -> silk screen find icon: beam item
- Power off and lock using [TealLock's](#) graffiti stroke.
- Assign the 'full face' stroke action to backlight toggling (Palm prefs)

### Other potential alternatives

- Power device on by pushing one of the standard Palm buttons. (Yes, you lose your context)
- Disable AutoOff to reduce loss of context
 

You must now remember to turn off your Palm using one of the following techniques. Do this to reduce the number of times that one loses context due to an auto-off occurring. (example: Looking at note on a contact, system does auto-off, turn on by pressing the "notes" application button, have to navigate back to contact and find note, fumble phone, drop phone and Palm and ...)

  - Buy [NeverOff](#) for \$1. I think this is safer, and you can change the off setting to 10 minutes, which is wiser! I have not yet tested this however.
  - Use dot-3 command: Create a new note, write Graffiti ShortCut symbol, then two dots (period), then number 3. The text [No Auto-Off] appears. Disables the Prefs setting for Auto-Off. Must do soft reset to restore preferences. **DANGER**: If you write a 5 instead of a 3 you delete your HotSync log and user name.
- PowerOff with a locking tool
  - Assign [OnlyMe](#) to the calculator button on the face plate mask. I tap on that button to instantly lock the device; then it powers off in my pocket but errant keystrokes from carrying a powered Vx don't cause data problems.
  - Power off and lock using [TealLock's](#) graffiti stroke.
  - Assign the 'full face' stroke action to lock and off (but then you lose backlighting)

### Cannot Hot Sync: No User Identified

This problem occurred to me in April 2001, and it happened every few days thereafter as long as I was using PocketMirror Professional 3.0 to sync with Outlook 2000 under Windows 2000 in the office. When I stopped doing that the problem stopped. I've seen mention of it on the Palm newsgroups, but no full explanation. I've also seen this occur with the Vx using the portable data cable, this seems to be a hardware problem. See [Palm V/Vx Travel Kit Charger/Data Cable: Defective Design](#).

On several occasions during that time, once with a Win 2000 machine at work<sup>[14]</sup> and once with a Windows 95 machine at home, I was unable to sync because the sync process stops at the point of indentifying the user (device name, username). No log file was generated.

Through a variety of approaches (swapping cradles, devices, machines, uninstalling, installing) I ruled out most of the obvious causes (hardware problems with Palm, serial port, motherboard, cable, cradle, etc.).

I identified the following workarounds. Once the device gets through the recognition step (correct user name identified) later syncs work -- until the next random failure.

1. Set transfer rate to 9600 bps. Sometimes this works immediately. Once the username is identified I cancel and return the rate to automatic. If this doesn't work, leave the rate at 9600 bps and add step 2.
2. Switch the COM port you are syncing to, eg. from COM1 to COM2 for example. After a successful sync you can switch back to the original COM port. If this doesn't work, add step 3.
3. Look for extra copies of the users.dat file that's stored in the palm data directory. It appears that with repeat installs the registry may point to the wrong users.dat file. Delete or rename any redundant copies. If this doesn't work, add step 4.
4. Delete the Pilot registry entry and subkeys. If this doesn't work, I have no further ideas.

The problem may be related to a registry issue of some sort, several usenet postings suggest this. Uninstalling HotSync Manager does not change anything, but I have not tried installing previous versions.

Some reference USENET postings:

- [Thread 1](#)
- [Thread 2](#)

## Palm Vx Lithium Battery Life Expectancy

The Lithium battery in my Palm Vx, manufactured by [GS-MELCOTEC](#), is 1-2 years old. That battery is now charging more slowly, and it holds its charge for less time. I probably get 2-3 days of use between charges. (This actually got mysteriously better, and there are some newsgroup posts suggesting bugs in the Vx battery electronics.)

I have read that Lithium batteries show degraded performance after one year of use, and that they have a lifespan of about 300 charges. Palm claims the battery will last as long as the handheld -- an evasive answer considering that a good number of handhelds are [broken or lost within one year of ownership](#). Palm charges \$100 to replace the battery (basically a device exchange).

On the **other hand**, a knowledgeable user writes:

In theory and in practice, a good-quality single-cell Li-ion battery, such as the one in Palm Vx ... should easily last for >1,000 charge/discharge cycles, perhaps even 2,000-3,000. I have cells like that cycled thousands of time in the lab. Phones and laptops are much tougher on the battery than B&W PDAs.

See also [Batteries in a Portable World](#).

## Palm V/Vx Travel Kit Charger/Data Cable: Defective Design

I've had longstanding problems with the Palm V/Vx travel charger using two chargers on two different Vx. I thought at first this was due to a mechanical problem with making contact, but I think now that it's

a failure of the V/Vx to receive or recognize a signal that should activate a charging mode. I find that if I start charging with the Palm in a "receptive" state that it seems to work well, though I still stand the Palm upright so that its weight pushes the travel charger pins into the Palm. The trick is:

1. Plug the travel charger cable into the Vx.
2. Switch to a view that shows the battery status (on my Palm this is the "home view"). If you are charging you will see a white battery outline (in my OS) with a lightning bolt through it. If you see this you can leave the Vx to charge.
3. If you do *not* see the lightning bolt, press the charger cable into the Vx slot. I apply moderately firm pressure. You should see the battery change from the "discharging" indicator to the lightning bolt icon. At this point the Vx should continue to charge.

The travel kit data cable has similar problems, though less serious. After about a year of heavy use I began having intermittent failure of the data cable (manifests as no desktop response to pressing Hot Sync icon on Palm, or a partial response with the "User:" field remaining blank). Playing with the pins on the cable and retrying usually works. (This went away, so I can't explain what the real cause was. It might have been software related.)

## Broken Vx Cradle Tabs

After about two years of routine use, one of the plastic tabs on my Vx cradle broke. The cradle is no longer very reliable, and I expect the other tab to brake shortly -- rendering it worthless.

## Palm IIIxe

Palm didn't sell many of these devices, which is probably a very good thing. They were the last in the Palm III line, and the **three** IIIxe devices we've used had an *unfortunate* behavior. Two exhibited a "flashing logo crash"; they would crash and require a hard reset (full data loss) to restart them. The first one did this about once a week, the replacement did it every few weeks. I had a repair done under warrantee in January and a replacement in July. The replacement unit had a spontaneous hard reset with total data loss in the first week of use. In 2000 the Palm Vx had similar problems when they shipped with bad 8MB memory chips. Only a cynic would suspect that the unpopular and shortlived IIIxe shipped with recycled Vx memory chips with some inadequate software patch.

As of July 2001 Palm has not publicly acknowledged the problem, but I have received email from other persons experiencing this, see also [newsgroup discussions](#).

I made one more effort with Palm in July to see if they could straighten this out. I was abandoned on hold several different ways, promised call-backs that never materialized, and finally told by a support person that they could send me yet another refurbished IIIxe if I really wanted one. Unfortunately the only comparable device Palm made was the Vx, and they were unwilling to offer that in exchange.

I won't be buying anything from Palm again, my next device will probably come from [HandSpring](#) or SONY.

## Synchronizing with Outlook 2000 & Exchange Server - Years of Painful Lessons

This is *hard, hard, hard*. Vendors in this space are tackling a very big problem. The Palm applications

use a very different data structure from Outlook applications; with a few exceptions Outlook is a vastly richer environment than the Palm handheld/desktop applications <sup>[10]</sup>. Simply transferring data from one data model to another is a big challenge in any industry (see healthcare, for example), but synchronization is qualitatively more difficult. In this case the data models are highly asymmetric, so the challenge is even greater. Then there's the fact that Outlook (as in my case) may be serving as an Exchange Server client.

It's a fundamentally hard problem, but in addition there are two major confounders. The market for this software is not huge, and most of the market doesn't use the advanced features I need. Worse, Microsoft will use every tool at its disposal to destroy the Palm platform -- and Microsoft owns Outlook. All together this may be an unsolvable problem, and considering the dominance of Outlook in the corporate world, this may be a significant threat to the Palm platform.

I have spent man-weeks of effort over the past two years dealing with problems related to synching my Palm devices with Outlook 2000 and our corporate Exchange Server. The problem is that I must use Outlook 2000 at work, but at home I sync with the Palm desktop. The handheld Palm unifies my personal and corporate calendars, but I do *not* want to put my personal data in my corporate workspace. The synchronization challenge is hard enough, but *in addition* I need to do "intelligent" (rule based) synchronization.

I have used [Pumatech's Intellisync](#), [DataViz's Desktop To Go](#), and [Chapura's PocketMirror 3.0 Professional](#). I am currently (still) struggling with PocketMirror. Desktop To Go lacks the ability to selectively synchronize items (other than using the private functionality, but I want to keep Private for its security functionality), so I won't discuss it further.

There is also one "free" alternative that I don't have experience with. Yahoo distributes [TrueSync software from Starfish software](#) (heirs to the Sidekick tradition of yore). Yahoo wants you to sync your phone and PDA to Yahoo (not entirely a bad idea) but Kevin M. tells me the software is configurable and need not use Yahoo at all. You can set up Outlook for your sync work. I don't think it will allow you to exclude data from the Sync process but I'm told it works quite well.

## Outlook Tips

- Whatever you are using you need to keep your Outlook environment as generic as possible. Do not use object embedding or object references; the Palm cannot support them. Forget about fancy formatting, if you edit the record on the Palm that will all be lost. Don't use long notes; the Palm can't handle them.
- No sync software does very well when you switch the category on a Palm 'ToDo' item to a category that isn't being synched to the desktop. In general you're better to duplicate the item in the new category and delete the original.
- **If you purge your Palm DateBook using the Palm Desktop (archiving old appointments) and then later sync with Outlook, depending on your sync software Outlook may delete all your past appointments. If you use Outlook/Exchange you may delete them from the corporate calendar!!** RECOMMENDATION: If you use Outlook/Exchange, move your old appointments from the Exchange server to a local store. Then when you sync they should be kept in Outlook but removed from the Palm. **TEST FIRST WITH A SINGLE OLD APPOINTMENT TO ENSURE TERRIBLE THINGS DO NOT HAPPEN!!!** If you should happen to delete thousands of appointments unintentionally from the corporate server, you will find them in your deleted items folder. Don't empty that folder! Create a local folder for calendar items and copy the removed appointments there for archival purposes.

## Intellisync (Pumatech)

Intellisync is by far the most powerful and programmable synchronization software on the market - when it works. Unfortunately it has failed me so many times that I finally broke down and threw in the towel. I've had all manners of crashes, always with cryptic and worthless error messages. I've paid for the bug-fixes (disguised as upgrades, and not cheap), but new bugs emerged. Pumatech's web site is weak and customer support is unresponsive and expensive.

Pumatech writes strings into the note field of Palm records to represent unsupported Outlook data types, such as categories in the DateBook (unlike PocketMirror Intellisync does not use DateBk3's categories). This worked quite well for me, I simply avoided altering that text. I used a category with every Outlook data item (I created item templates that had this category set), and I used Intellisync's rules to control synchronization by category.

In addition to a rich set of rules Intellisync supports item import/export as well as the more customary overwrite behaviors. It also has excellent date range filters. I just wish the software worked, and that the company treated its customers a bit better.

## PocketMirror Professional 3.0 (Chapura)

This software is less powerful than Intellisync's, but the web site is much better (the manual, for example, is online) and the customer support person I spoke with was outstandingly good. It definitely has bugs, but it tries to support DateBk3. They have one serious design problem that I think could be fixed; fixing it would make the software much more useful for me.

I closely reviewed the online help file (if you purchase this software electronically the manual is a separate free download) and the online FAQs. In addition for specific hurdles I called tech support. I think when you read the following procedure you'll understand why I had to do so much preparatory work, and why I had to do so much experimentation. My previous use of Intellisync also added some complications.

The following description of how I've made PocketMirror work (So far! I've had a number of crashes, "exceptions", etc) begins with some key things to know about how the software works, then discussed data cleanup prior to synchronization, then describes the synchronization setup process. This material is not in the manual or on the web site. This is a very spartan description, it's strictly for experts.

**This is painful and complicated. There is a high probability of disastrous data loss. If you mess up your corporate calendar you could lose your job. This will not work smoothly. You have been warned. Danger, danger ...**

### Things to Know about PocketMirror Professional 3.0 (PMP3)

- **BUG:** As of Feb 2001 There's a bug in PocketMirror Professional 3.x that causes all appointments to be replicated as conflicts in the PocketMirror folder. The bug is unrelated to DateBk, it occurs with the built-in calendar too.
  - When I discovered this was happening I'd switched to Windows 2000. I don't know if it's a Win2K only problem.
  - Chapura's initial recommendation was to switch to their calendar program. It was only when I pushed back (see thread) that they confessed this was not a DateBk problem, it occurs with the standard Palm calendar application.

- Their workaround didn't work for me, they don't have a fix yet. They suggested: Uncheck the box in the Chapura Settings under Mutliti-day Appointments for "Split up timed, multi-day appointments". To do this: 1. Go to "Start/Programs/PocketMirror/PocketMirror Settings". 2. From the "Chapura Settings" screen, double-click on your user name. 3. From the "Change Synchronization Preferences" screen, double-click on Outlook Calendar. 4. From the "Preference Settings for Outlook Calendar" screen, select Multi-day Appointments from the Topics list. 5. Uncheck the box for "Split up timed, multi-day appointments". 6. Close out of the Chapura Settings. 7. Synchronize twice.
- My Palm Vx CD included PocketMirror 2. You can find it on the CD and install it manually from there at any time. I installed PocketMirror 2, then paid \$25 for the 3.0 Professional upgrade and installed 3.0.
- Version 3.01 is coming out @January 2001, I would wait for that upgrade, it will be free to registered users.
- **The only way to keep items on the Palm that do not sync to Outlook is to use the *Handheld Category = Outlook Folder (Subfolders)* option.** You can use rules based on Outlook categories to control the movement of data from Outlook to the Palm, but not the other way around.
- **You can control synchronization to subfolders, but the root folder *always* syncs to the Handeld Category of *Unfiled*.** This is a headache, and most of my work was trying to figure out how to deal with this limitation.
- **Before you can tell PocketMirror NOT to put your personal data on the corporate server, you usually (see below) have to first put your personal data on the corporate server.** After your data is there you can tell PocketMirror not to use it and the data will be removed.
- **Outlook does not deal with subfolders very well, especially when used as an Exchange Client!** If you nest folders under Calendar, for example, you get multiple calendars that don't interact with one another. If you accept an appointment invitation from Exchange, Outlook will create it in the root (top) folder only. To Do items display in Outlook views only from the root folder, not from a To Do subfolder.
- It's very easy to blow away all your data. I made sure I had a current backup of my Palm data on my Palm Desktop at home, and I made an extra backup of my personal folder from the Palm Desktop. I created empty folders in Outlook for practice runs.
- When you create Category Links in PocketMirror (see below) the links are to the underlying objects. So if you move or rename an Outlook folder, the link persists to it. Be careful!
- I always use the slow synchronization setting, which is invoked when you tell PMP3 that you will sync from multiple clients. It's slower, but may be less error prone.
- If you change the root folder then links change to match new root folder -- this can be useful in dealing with selected problems.
- **BUGS (3.0)**
  - For unknown reasons, some apparently normal entries in the Palm database can cause PocketMirror to throw an exception. The error log tells you what the entry is, you have to find it and delete it. (You can probably recreate it as needed.)
  - If you use DateBk3, and if you assign an icon to a category but then remove the icon from the icon collection, then PMP3 will duplicate the item on the Palm. *It will do this even when you have set the synchronization to overwrite Outlook!* See my cleanup process below for a workaround. This is said to be fixed in 3.01. (In DateBk3 if you do this when you view the appointment details you see a hex string where the icon should be.)

## Initial Data Clean-Up Process

The procedure you will need to follow will vary. I actually did this several different ways for different items (calendar, To Do, etc). This list is a source of ideas only. My data was probably unusually "dirty" due to problems with Intellisync.

- If you use DateBk3, run the included utility to check for any data errors and make sure those are

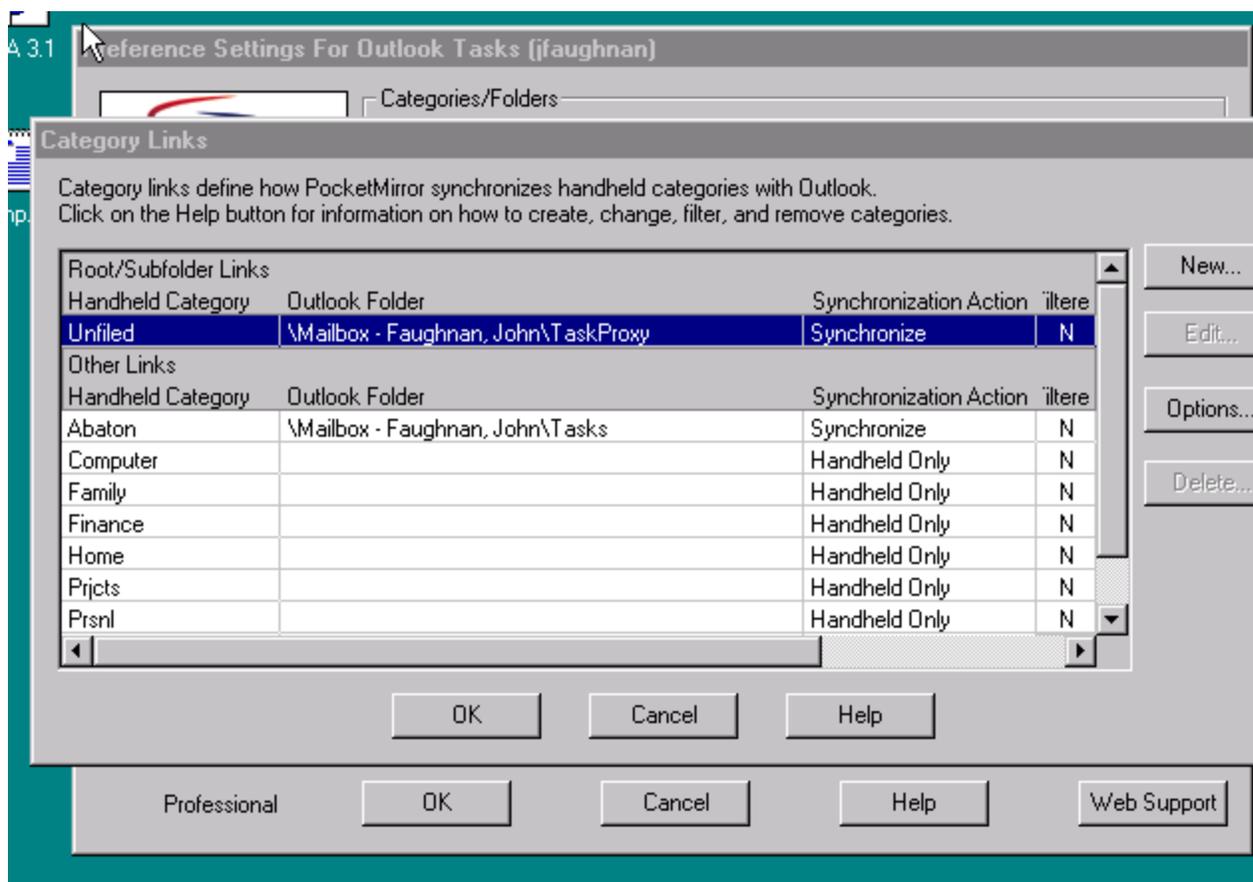
fixed.

- Create an empty folder of the appropriate type (eg. appointments) on the desktop. Call it what you want, I used TaskProxy for example.
- To be safe, create backup folders and copy all your Task/Calendar/Memo entries there (use Outlooks row oriented views)
- Set PocketMirror to use the empty folder you created.
- Set synchronization to *Handheld Overwrite PC* and *Handheld category = user-defined field 'PalmPilot Category'*.
- Synchronize. If errors occur read the error messages and work on them. Empty the temporary Outlook folder between trials.
- If all is well then switch to *Handheld category = Outlook folder* mode and retest always using Handheld Overwrite PC.
- If this works then consider cleaning up items in Outlook as needed and now use synchronization. Check out error messages and clean up data further.
- If you are getting the DateBk3 duplication bug (see above) you can try this:
  - Do two synchronizations where *Handheld Overwrite PC*. Now there will be 4 copies of the problem items on your Palm and two copies in Outlook.
  - Switch Outlook to a list view and using whatever tricks you can invent find the duplicates.
  - On the Palm locate the same items, delete duplicates, and then fix the category/icon settings.

## The Final Synchronization Setup

If your data is now clean, you are ready to do the real synchronization. Light candles, pray, offer a sacrifice, whatever. Just be sure you've backed up everything. This description is for Tasks/Contacts and Notes, for Calendar/Appointments I chose instead to have Outlook appointments sync from root to unfiled on the Palm, and to assign categories to all my personal appointments (see [DateBk3](#) priority icon examples). This procedure differs from Chapura's documentation, see the help file called *How Do I Keep Personal Information Off of the Company Server?* for Chapura's method. I'll describe it for Task synchronization. **If Chapura allowed us to edit the Unfiled/Root link then we wouldn't need this complicated process and the kludgy TaskProxy folder.**

1. Note all the categories you use on your **Palm**. In this example I assume you want to sync only one of them with Outlook. If you do not yet have corporate tasks on your Palm, create a category that will hold them (in my case "Abaton") and sync after that category is created (maybe put a test task in it).
2. Create an Outlook folder you will not be using for anything. I called mine TaskProxy.
3. Set synchronization to *Handheld category = Outlook folder* mode and set the root folder to TaskProxy.
4. Go to the Category Links option (see the Help file if you don't know how to do this) and use the New ... button to create the Handheld categories you noted in #1. Set all you wish to keep on the handheld to "Synchronize Action" = "HandHeld Only". For the one category you do want to sync set it to point to Tasks Outlook Folder.



5. Cross your fingers and sync.
6. In future if you create a new category on the Palm it will sync to your desktop unless you first create a category link as above. If it does sync to the desktop go to this screen and set the link to Handheld only. The data will be removed from the desktop on your next sync.

## Input

### Styli

The Palm III stylus is a bit rough. Good for writing, but hard on the screen. For me the perfect combination is to combine screen protection with an aftermarket stylus -- no screen injury and an excellent feel:

- Scotch Satin Tape 3/4": apply over the entire lower input area. One strip lasts months to years with my preferred stylus. Cost is too tiny to estimate. **Tip:** Pull out a strip about 4-5" long. Hold it at the margins (your fingerprints go there :-). Lay it down over the entry area and smooth the tape from the center outwards. Then carefully use a sharp blade, oriented away from the entry area towards the plastic rim, to trim off the two tails.
- PDA Panache Custom PDA Stylus Model P33-B. \$16 from [PilotGear](#). I'd prefer a tighter fit with the Palm III (I've lost one of these), but it's worth the steep price.
- Palm V standard stylus -- this seemed okay, but over time I think this stylus may be even more abrasive than the Palm III stylus. It's really hard.

I also love the Platinum Double Action, also from [PilotGear](#). This is lovely piece of classic Japanese engineering and manufacture. About \$8.00, fat plain plastic body, it incorporates a pen, mechanical

pencil, and plastic stylus. You can't buy more quality for less money anywhere.

## Keyboard

I used the GoType keyboard from [LandWare](#) with my older Palm III. It uses a 20K system patch (there's another HackMaster compatible patch) to transfer keystrokes to the Palm. I didn't see any deterioration in system stability, but you can turn the patch off when not using the keyboard. The keyboard is reasonably small, rugged, and seems to do the job. I'm going to paste the special key combinations onto the keyboard cover -- too bad they didn't include a sticker with these one them!

Alas, this keyboard is not compatible with the Palm V or HandSpring's devices (though there is supposed to be an adapter made by HandSpring that might work).

The [StowAway](#) keyboard that's coming to market this December is supposed to fit the Palm V and Palm III form factors and maybe even HandSpring (may be a different model). It seems much superior, but early reports indicate that the small size comes with a price.

## Wireless Wide Area Networks (WWAN): Novatel/Minstrel

As of January 2001 I've had good success using a Novatel/Minstrel wireless modem with my Palm V. The data service is GoAmerica, but I'm not using any of their software (Go.Web locked up my Palm V). I'm using the Eudora Internet Suite 2.0 and the following web browser-like products:

1. AvantGo 3.x: proxy server translating web pages
2. EudoraWeb: web browser on the Palm, no support for tables though.
3. KBrowser: a WAP client
4. Web Clipping from the grossly overpriced Palm Internet Kit esp. Britannica.

The service is paid for by my employer. The main value seems to be for travel (weather, restaurant finder, trip.com, etc.). I find, however, that I can access [Britannica](#) using AvantGo or (better) Web Clipping. That's cool. Performance is slow but reliable. It feels roughly comparable to an old 2400 kps V42.bis phone modem

Even with the Palm V Internet kit I could not connect to my ISP using my Nokia cell phone (I didn't struggle too hard -- on one attempt it seemed I'd connected but I think the script failed somewhere). I'm glad my employer covered the \$50 cost. It's grossly overpriced.

## WWAN Communication and Cell Phones

This section was current **at the end of 1999**, and as of February 2002 it's only been partially updated; mostly I've stripped out really obsolete material.

After some initial enthusiasm I found that the WWAN results in 1999 and 2000 were not worth the effort. Sprint, in particular, couldn't deliver the service they marketed. HandSpring, 3Com, Palm, AT&T, Sprint, Nokia, Symbian, Microsoft and various phone vendors are involved in a complex set of alliances, maneuvers, and betrayals <sup>[2]</sup>. We poor Palm users must do our best to sort things out. See also [Reports from Users](#).

More recently, in November 2000, Palm introduced the [Mobile Internet Kit](#) and a [list of compatible](#)

[phones](#). This list includes phones that allegedly have IR ports, but US customer should check that the ports really work and really work with the Palm<sup>[6]</sup>. Many of the phones are only available in Europe. My advice for anyone who wants to use their Palm with a phone is to find a phone on this list with a working IR port, then find a service provider who has the phone.<sup>[7]</sup> Try before you buy if at all possible, the Mobile Internet Kit bombed when I tried to use it with my an aging Nokia cell phone.

Of course you can also do wireless data work using the Palm VII and BellSouth's [Mobitex](#) network, but this is currently a data-only solution requiring a separate account and additional costs.<sup>[4]</sup>

This subsection has five parts: [The Dark Secret of Palm/Cell Phone Wireless Communication](#), [Bell Mobility](#), [Phones](#), [Software](#), and [Links: Wireless devices and the Palm](#).

## The **Dark Secret** of Palm/Cell Phone Wireless Communication

It's hokum. Ten years ago we used to connect computers up to analog cell phones using modems running [MNP-10](#) protocols. We connected at 2400 to 9600 bps and reliability was poor. **Not much has changed.**

Yes, the phones are digital, but **the communication signal is still analog**. CDMA, TDMA and GSM cell phones alike all contain old-style analog modems. The digital signal travels from your Palm to the phone modem, just as it travels from your computer to an external POTS (plain old telephone service) modem. The phone modem then turns the digital signal into an audible-range analog signal, just like a fixed-wire modem. Then the phone takes this sound signal and digitizes it, just as it digitizes your voice. The wireless company eventually turns the signal back into an analog signal and dumps it into the regular phone system where it eventually ends up at your ISP.

If you think about this a bit, you understand why attaching your Palm device (or any other computer) to a cell phone is a remarkably unimpressive experience. The only thing we've gained in the past decade is that digital cell phone connection is less "noisy" than many older analog signals -- so throughput might be 10-20% higher. On the other hand, in the old days you weren't charged an exorbitant fee for "data services". ("What services?" you might ask -- and ask you should.)

When I use an analog signal over the line from my house to the phone company switch I get about 38 kbps. When I use a digital signal (DSL) I get 500 kbps, and I could get 2-3 mbps (maybe) if I paid more. That's a huge difference. Using tones to signal over a digital cell phone line is like tapping out morse code over a phone line - instead of just speaking. Yes, it can work, but it's slow and absurd. (1/5/2001 -- yes, it did take me rather long to catch on.

## Bell Mobility (Canada)

BellMobility runs a CDMA based data service in Canada. I've no information on how well their service works, but they're included here because they supply data accessories for a much lower cost than Sprint does. They also provide excellent [PCS documentation](#), including directions for [connecting a Palm device to a PCS phone](#).

As of October 31, 1999 Bell Mobility was [selling a 'data connection' kit](#) for the 6185/7100 which included the DL-3 cable, software, and a Palm cable adapter for about \$55 US (\$68 CAN). The order form has been changed to accept US orders, and they no longer even pretend to require that orders are from Bell Mobility subscribers.

*Warning:* I've just made my second order for this cable. The first time they sent me the wrong kit with no receipt or return information! However their order processing has improved tremendously in a 10 day period. They now generate an automatic follow-up message with tracking information, they accept US addresses, and they generate an online transaction receipt. As of Nov. 2nd my order had just shipped.

If you do need to return something, use this address: Bell Mobility DF Returns, 277 Humberline Drive, Etobicoke, ON M9W 5T6

## Phones

In the US market there are three general approaches to wireless data/digital voice networks <sup>[2]</sup>. Bell South, Cellular One, [AT&T & Comcast Cellular use the TDMA](#) standard. Sprint & Bell Atlantic/Vodaphone Airtouch (now largest US network) use [CDMA](#) (which was developed by Qualcomm!), though I don't think Sprint's CDMA phones (for example) will *necessarily* work on both networks. VoiceStream/Aerial and [other smaller US networks](#) use the European/world [GSM](#) standard. (see [GSM vs. TDMA vs. CDMA](#))

The "3G" (third generation) wireless protocol *may* be an international standard, and will provide a unified data/voice wireless solution. The 3G standard *may* be based on Qualcomm's CDMA technology, which puts Sprint/MCIWorldcom, Bell Canada, and Vodaphone/Airtouch in a rather good position. <sup>[2]</sup>

For now I would like my cell phone to be small and elegant, with serial and IR connectivity, security lock, ability to transfer phone numbers/addresses from Palm, voice mail/pager support, reliability. I've never seen such a phone. Ultimately, of course, I want to dispense with the cellphone altogether. Jakob Nielsen was right on when he wrote that the [telephone UI is ridiculous](#) (see also a later Nielsen article: [Mobile Phones Europe's Next Minitel Jan. 2001](#)). The PDA should be the phone, with a separate headset. <sup>[6]</sup>

## Software

### Qualcomm

- Qualcomm has introduced an email and browser suite for the Palm: [pdQsuite](#). This suite sounds very appealing, but probably requires a 4MB Palm to fit with data and other applications.

### Paragon Software

[Paragon](#) used to sell FoneSync software, but it's been bought by Motorola and is no longer sold directly.

- [synch](#) the handset phonebook with some desktop PIMs (No Palm Desktop support - [write them!](#))
- [maintain handset phonebook](#) with a desktop application that can import CSV files. (Should work with Palm Desktop)

## IR Software for Palm

These references are to [www.palmgear.com](#). Tragically they are of little use to US consumers -- our phones are typically have their IR ports stripped out. See also [Nokia 8810 Dial-Up and Fax Connections via Infrared](#).

- [DI27-SMS Ericsson-Nokia 8810-Siem-Motor 1.62](#)
- [Soft IR Modem 1.4.1](#)
- [IRLink 1.2](#): soft modem support for Ericsson SH888 (or other model that compatible with DI27) and Nokia 8810

## Links: Wireless devices and the Palm

- [Data mode with Sprint PCS and Samsung SCH-850](#): an excellent personal experience page.
- [BellMobility \(Canada\) PCS documentation](#) - includes documentation on [connecting a Palm device to a PCS phone](#) (specifically Nokia 6185)
- [Newsgroup thread on this topic](#)
- [Red Herring - Up in the air](#). Part of the [August 1999 Wireless Telecomm Issue](#). The best "birds-eye" overview of wireless communications I've seen; focus on the "3G" future.
- [Saga of a very early pioneer](#) -- a vote for Qualcomm and CDMA (Frontier)
- [How Qualcomm CDMA phones work as a "modem"](#) <sup>[4]</sup>
- [Steve Cerrutti reports success with NeoPoint](#): Palm IIIx, HotSync Cradle, Null Modem Cable, Gender Changers (2), NeoPoint 1000, NeoPoint Data Cable
- Aftermarket vendors: [WirelessCall.com](#), [MobilePlanet](#), [Everything Wireless](#), [1800Mobiles](#). Note that [NokiaUSA](#)'s prices are pretty competitive.
- [GSM vs. TDMA vs. CDMA](#): why CDMA (championed by Qualcomm) is technically the best choice ...
- [GSM](#) (alternative data service, 9600bps) and [American support](#)
- [Extending the Internet](#) - an optimistic technology review
- [Mobile Data Is Set to Take Off, but Glitches Remain](#): Oct 1999 NYT article
- [PDAs, palmtops and Windows CE—the wireless connection](#) - May/June 99
- [Tomi Engdahl's Telecommunications Page](#) - a vast personal collection of links, from a Finnish author. When it comes to telecomm, the Finns know how.

## Palm Disappointments: Wrong Turns

### Where did Palm go wrong?

In early 2001 the Palm platform is growing slowly in the consumer marketplace and is probably not growing at all in the corporate market. Palm and Handspring are selling far below anticipated levels.

In the absence of any knowledge whatsoever, I'd say the **corporate** market problem is twofold: [problems syncing with Microsoft Outlook](#) and the anticipated dominance of the PocketPC (the Compaq iPaq has many problems, but it clearly can be fixed and corporate buyers know that if a Microsoft product is close to good enough it will win). I don't know that Palm could have done anything differently about these problems.

In the **consumer** space my uninformed opinion is that Palm and its licensees did two bad things -- both of which could have been avoided. The two main errors were weak quality control and cradle connector/desktop compatibility stupidity.

The quality control problem was driven by a desire to grab marketshare and a need to maintain high margins. It's fatal. Consumers are resigned to unreliable desktops, but the Palm had an early reputation for reliability. That was an important differentiator -- and once lost it is impossible to recover. Any non-computer person who's lost data from their Palm will never trust the device again.

The cradle problem is mind-boggling. Consider if Palm *had* succeeded, so that multiple persons in a home needed to sync their devices. How the heck could they do it?! Unless all the devices were identical there would be a profusion of cradles and even desktop software versions. Since PCs have nowadays 0-1 serial ports it's just not feasible. Then there are all the device specific peripherals -- if all Palms had standard attachments peripherals would have been robust and inexpensive; the endless attachment variations have fragmented that marketplace.

Not that Palm is alone in this foolishness. The otherwise lovely color Clie has two fatal flaws -- like the Palm 4.0 desktop the Palm/SONY desktop software is proprietary and won't work with any other manufacturer's Palm, and the Clie has yet another serial connector standard that's incompatible with all existing external devices. Only HandSpring seems to have figured out the importance of a standard way to connect peripherals.

I continue to like my Palm, but they couldn't afford to make any mistakes -- and they did. Maybe someone will do better ... next time.

## Palm OS Design Problems

- Dated to do items don't show up in the calendar application. This is bizarre. The OS 3.5 agenda item really isn't worthwhile. See [DateBk3](#).
- Notes attached to calendar entries or To Do items don't show up in the notes application.
- The clipboard capacity is very limited. It's easy to create a note that won't fit into the clipboard, requiring multiple copy and paste actions.
- There's an arbitrary 32K size limit on many Palm applications, and a 4K size limit on the notes application. This is enough to make a longtime computer user berserk. I thought I left that stuff behind with MS-DOS.
- Only 15 categories available at any one time for categorizing items. **Bad**. This causes problems during synchronization, particularly with older items. Even if you use only 10 or so categories at a time, you may have other categories used with older items. During synchronization categories over the top number will be dropped (most recent first?), resulting in items being assigned to the 'unfiled' category. Unfortunately this limit is apparently very deep in the OS (shades again of MS-DOS limits). Fixing it will take major work.

## Engineering and design problems with the Palm Vx

- [Palm V/Vx Travel Kit Charger: Defective Design](#)
- [Palm Security](#)
- [Palm Vx Lithium Battery Life Expectancy](#)
- [Palm V/Vx Travel Kit Charger: Defective Design](#)
- [Palm V/Vx Power Switch Failure](#)
- the device is frequently powered on unintentionally because the power switch is exposed

## Wishes

- Fix [Disappointments by 3Com](#)!
- Desktop apps export to Word and Excel facilities are great. Add ability to export/import to HTML and XML!
- Make the undo function work.

## Repairs, Service and Support

A Palm device is vulnerable. It's always on the move, always exposed to dust, dirt, water, grime, falls, spills, impacts, freezing cold and broiling heat. Fierce price competition limits quality and durability; these devices are not as rugged as traditional cell phones. Sooner or later you will have to deal with Palm customer support.

I suspect the average lifespan of a handheld device is about one year; if trauma doesn't kill it then loss or theft will. This is an important consideration in buying a handheld device. It suggests you should buy at the lower end, and expect to replace your device every 1-2 years. It also emphasizes why regular synching (data backup) is so critical.

Palm devices also have a fairly high rate of birth defects; the failure rate in the first few weeks of ownership is higher than at any other time <sup>[12]</sup>. If your retailer will exchange a broken device for a brand new one be sure to keep your box, documents, etc. This is the best way to handle a very early failure; it's one reason to choose a brick-and-mortar retailer.

Given all of the above, you will eventually need to contact customer support. Unfortunately Palm Inc's once excellent technical support has been, for me, **unsatisfactory**. Still this information may be of use to others, it applies to Palm Inc, not [HandSpring](#) and other worthy alternatives.

There are four sources of tech support, but only two are worth anything. They are:

1. **Web site**: Pretty good, but as of Jan 2001 the tech notes were still a bit weak. Only valuable for getting information.
2. **Chat service**: Absolutely worthless. A colossal waste of time.
3. **Email**: Almost worthless. Responses seem to be computer-generated and they are rarely relevant to the question asked. This is probably of some use to novices who ask questions that are addressed in the manuals.
4. **Phone support**. This is your only choice if you need service and it's the only way to get a repair or an authorized return.

The phone staff are generally reasonably good, but do not try to phone on weekends, especially following a sales promotion or a holiday. They are utterly overloaded at those times. I've had good luck in mid-week late in the evening, especially Thursday evening.

Every Palm is warranted (except for breakage) for 1 year<sup>[13]</sup>. If your Palm needs to be serviced in that time you have two choices:

1. **Advanced return**: They will take your credit card number and then send you a replacement refurbished unit. You send your old device back after you receive the replacement unit. As of July 2001 they charge \$25.00 for this service. This is fast, but I don't know how reliable the refurbished units are. I've gotten three due to breakage and the **IIIxe debacle**. One was fine, another Vx had a power button that died quickly, and a IIIxe had a crash problem.
2. They will send an Airborn Express box and repair the original device. I'm told this takes 10 days, but check to see that they have devices and parts in stock. All your data will be erased (in fact you ship without batteries, so you can be sure the data will go) - so I hope you were backing up regularly.

After that year, or if you break a device, Palm has had a somewhat unofficial, and not well advertised, replacement policy. For \$100 you may be able to get refurbished device. Either ship them your broken one or give them a credit card number and do an exchange. This is a *very* worthwhile program, but I suspect it depends on how many refurbished devices they have lying around. I would guess it's a money-maker for them, but they might make more if you bought a new unit. I've used this policy with a Palm Vx I shattered.

If your Palm is a lemon (see [Palm IIIxe](#)) and under warrantee the procedure is as follows:

1. contact tech support 847-262-7256. They may issue a replacement or do a repair.
2. after the **3rd occurence** they may defer to customer care: 888-956-7256. Customer care in theory can do an upgrade replacement after the 3rd occurence, in practice I was told they wouldn't help.

If your Palm III is out of warrantee, and is not physically broken but is misbehaving so that that a hard reboot won't fix it, you might as well take it apart and clean it with compressed air. This fixed a Palm III of mine that would not respond to screen taps, but did respond to the physical buttons. Use a proper sized screwdriver to remove the four base screws; I use a Wiha 261 PH00x40. Use a slim blade to gently pry apart the plastic top/bottom section. Then without trying any further disassembly, use compressed air to clean this area. The Palm III is vulnerable to memory chip dislocation -- check to see everything is in place. Reassemble.

## Palm Resources

- [PalmGear](#)
- [Palm WebRing](#)
- [MemoWare - The PDA Document Repository](#)
- [Calvin's PalmPilot FAQ](#)
- [ZD Handheld Supercenter](#)
- [O'Reilly PalmPilot Center](#)
- [Jay's Favorite Palm Web Sites](#): a comprehensive collection.
- [Bob's Palm Links](#): I love this sort of resource -- a real world user's personal list of what works and what doesn't.
- [Palmary Toys](#): Palm hardware hackers
- [Technick.net - Batteries in a Portable World](#)

## History

- **May 2002**: Update on Vx data/power cables.
- **Feb 2002**: cleaned out some junk
- **August 2001**: IR HotSync on Windows 2000
- **July 2001**: IIIxe and backups, the IIIxe debacle.
- **March 2001**: Security update.
- **Jan 2001**: Update on wireless
- **Nov 2000**: Outlook/Exchange synch with Chapura PocketMirror, wireless clean-up.
- **July 1, 2000**: General clean-up, except wireless.
- **May 16, 2000**: Intellisync comments
- **Nov 2, 1999**: More user experiences on Sprint data connections.
- **Oct 16, 1999**: DiddleBug entry, remove BugMe
- **Oct 9, 1999**: G3 updates, cleaned up Nokia cable information, politics of wireless is sorting itself out.

- **Sept. 29, 1999:** corrections and links
- **Sept 24, 1999:** Figuring out the politics of the wireless data world, which explains what works and what doesn't.
- **Sept 23, 1999:** corrections on pricing, more updates, CDMA vs. GSM clarifications, extensive phone revisions, push away from Nokia (alas).
- **Sept 21, 1999:** extensive revisions to wireless section following Sprint announcements.
- **Sept 12, 1999:** updated cell phone section, general updates.
- **Aug 11, 1999:** repairs section, TealLock
- **June 26, 1999:** DateBk3 custom icons
- **May 16, 1999:** styli section
- **Apr 30, 1999:** updates on disappointments.
- **mid-1998:** initial version

## Footnotes

- [1] I'm not sure these are really modems. After all, the phone is receiving a digital signal from the computer and it's on a digital network. I think it's acting more like a bridge or gateway.
- [2] Qualcomm developed CDMA and owns the patents. Since Sprint is the major US CDMA champion (AT&T is TDMA), this goes a long way to explain why Qualcomm/Sprint are a natural pair, and why Nokia (GSM/TDMA) and AT&T seem to be much closer.

Just when the battle lines seem drawn, however, everything changes. As of Oct 1999 Palm and [Symbian](#)/Nokia have become allies. Also Symbian/Qualcomm have announced a CDMA partnership.

Overarching everything, however, is the anticipated ITU adoption of a worldwide data/voice wireless standard. The [latest word](#) expects this to be based on CDMA, so this will drive Nokia to ultimately support CDMA. This convergence is likely driving antagonistic forces together.

- [3] This phone has some sort of built-in browser capability -- but it was a very early attempt and apparently doesn't work correctly. It is basically a very early version of a mini-"smart phone"; the 7001/7010 phones are a more realistic Nokia implementation.
- [4] Mobitex is a packet-switched data network, quite different from the cellular digital networks discussed here. See [FAQ](#). The future is probably voice over packet networks.
- [5] The delay may relate to a need to upgrade the PRAM in the Nokia 6185 phone. It does not support WAP 1.1, and it is rumored that the phone does not work well in parts of Sprint's network that use Lucent equipment.
- [6] Sometime in 2001-2005 we'll converge on the next generation palmtop/phone configuration: a [wireless integrated earphone/microphone](#), a pager-sized receiver/transmitter, and multiple independent user-interface/presentation devices ranging in size from a wristwatch to a Palm device to a slate or larger. All of these elements will be tied together by a personal Bluetooth LAN. You'll use your UI device to initiate a call while you simultaneously use it to browse the web, review text messages and updates, and view video. The

earphone/microphone handles voice. The receiver/transmitter is your Mb/sec interface to the packet switched wireless data network. The first generation of this device will be a receiver/transmitter that clips onto a HandSpring slot with a cable-based Jabra earphone/microphone. By 2004 the receiver/earphone device will cost under \$70, and the handheld devices from \$30 and up. By 2007 equatorial African will have significant numbers of wireless web clients.

- [7] Lost in all the Bluetooth enthusiasm is an explanation of why IR was never properly used and why it often fails to work correctly. Why did such a cheap and allegedly effective serial interface go unused? I'd love to know. It works very well between Palm devices!
- [8] I'm a bit surprised that no-one sells a padlock or house lock that would respond to an IR signal from a Palm.
- [9] Biometric identifier could be thumbprint, or the device could include a lens to read one's iris, or it could respond to a chip implanted in one's hand. (I put a chip in my [dog's](#) belly, so putting one in my hand seems only fair.
- [10] Richer, but not necessarily more useful. Outlook is a massive application of incredible complexity. I'm not sure anyone fully understands it. It's a mixture of very old and creaky components, abandoned ideas (the journaling file system) and the very latest fashions. It's also rich with hideous bugs, fiendish usability traps, and a myriad of ways to lose time and data. I suspect that the cost of Outlook/Exchange to the corporations that use it, where it to include the costs borne by users, would be absolutely shocking.
- [11] [updated 2/2001 with advice from DG, a knowledgeable insider]

"PalmPilot" is the brand that wouldn't die. A company named **Palm Computing** put together an embedded operating system (PalmOS) to go with a new handheld computer, made desktop software to compliment it, designed a box, wrote a manual, and made it all pretty. They had two models: the *Pilot* 1000 and 5000. They were excited about their product when (drum roll) they ran out of money. That's when US Robotics came in. They purchased Palm Computing and gave them what they needed to get the product on the shelves. Then came the Pilot Pens lawsuit rumors, and the change of the Pilot name to the PalmPilot, which apparently wasn't good enough. The name changed to "Palm", around the time 3COM acquired US Robotics. Most of US Robotics died but the Palm products spun out as Palm Inc.

There really isn't a good name for the class of PDA devices that run the Palm OS. Despite that everyone still calls these things Palm Pilots. Maybe Palm Inc should just buy Pilot pens and get the name back! US Robotics is now largely forgotten, but their name lives on in the Windows registry: U.S. Robotic is the Key Name for the Palm Desktop.

- [12] This is no less true of Visors, PocketPCs, desktop computers, etc. In fact some desktop retailers have had even higher failure rates of 30-50% -- though reliability is probably better now than 1-2 years ago. Interestingly this has not been true of cellphones, but they are simpler devices.
- [13] There are extended warrantees and screen breakage warrantees, but they don't make sense to me. Too obviously ways for Palm to make money.

[14] These were things I did when I thought the problem was strictly related to the Windows 2000 work machine where PocketMirror Pro 3.0 is installed:

I verified the serial connection worked using HyperTerminal (disable HotSync Manager, set up HyperTerminal to dial up to COM1, and then push the HotSync button on the cradle). Knowing I had a backup at home, I experimented with removing the username from my Palm (shortcut stroke then dot then 4), the only effect was to cause my registered applications to fail, I had to reset the Palm Vx and reinstall at home. (Resetting was hard because of the [Palm V/Vx Power Switch Failure](#) !)

At home I had no synching problem. Through various combinations I was able to narrow the problem down to my work PC -- either PC hardware or software. I was able to fix the problem, but I cannot say which of the following worked:

- switched to COM2 on the desktop instead of COM1. (This didn't work when it was the only thing I did, and in other testing COM1 was fine, so I don't think this was critical)
- uninstalled the Palm desktop and [PocketMirror Professional](#), then used regedit to find and delete the "Pilot" key. (Uninstalling doesn't remove this registry entry)
- changed sync speed to 9600 bps
- reinstalled Palm Desktop 4.01

After doing all of these, I HotSynced and saw my username show up correctly. The Hot Sync did not abort normally, perhaps because of the slow speed. I repeated then at standard speeds and it proceeded normally. I then reinstalled PocketMirror Pro.

---

*Last Revised: 01 Feb 2002. Author: [John G. Faughnan](#). The views and opinions expressed in this page are strictly those of the page author. Pages are updated on an irregular schedule; suggestions/fixes are welcome but they may take weeks to months to be incorporated. I reserve copyright except where noted, if you want to repost or quote a page just ask. **Anyone may freely link to anything on this site and print any page; no permission is needed for linking, printing, or distributing printed copies.***