

## **Pocket PC backup/restore made easy**

Last year in the September 2005 issue of the First Responder we had an article on backing up the PEAC-WMD software application to either a PC or to the flash memory on the PDA. This is still a problem customers are encountering and I thought that revisiting the problem and the solutions would be of assistance to our customers and others that encounter this problem with Pocket PCs.

### **Background**

Before getting into the mechanics of the backup and restore processes a short discussion about the problem may help Pocket PC users understand the problem. The Pocket PC processor draws power regardless of whether the unit is turned ON or OFF. The ON/OFF button simply turns the display ON/OFF, and since the display is one of the primary power consumers on the PDA, shutting off the display will extend the useful life of the battery on a single charge. Most of the batteries on the Pocket PCs are Lithium-Hydride (LiH) units and typically have a pretty reasonable performance. But like any battery, over time they will degrade and may have to be replaced. The primary thing to remember – periodically charge the PDA! Well that's easy for me to say, but in the real world that's not always easy to do. Many fire departments like to mount the PDA in the cab of a vehicle so it's ready when rolling out to a Hazmat incident. Great plan and the right idea, but sometimes the charger isn't connected to power and before long the unit is dead.

If your PDA is running the Microsoft Windows Pocket PC 2002 or 2003 operating system, the problem with the unit going dead is that 3<sup>rd</sup> party applications (like the PEAC-WMD application) are automatically loaded into volatile memory. Volatile memory (sometimes referred to as non-persistent memory) maintains its contents only while power is applied to the memory. When power is lost, the contents are lost. And here's the problem, the unit has to be reloaded with the PEAC-WMD application, either from the memory card (Secure Digital or Compact Flash) or the CD-ROM (AristaTek provides both to the customer).

If loading from the CD-ROM, it takes time and a PC, which is generally a pain in the butt. Loading directly from the memory card requires only the PDA and the memory card, and is pretty quick. Once loaded, the full application can be run in the DEMO mode without a validation code for 31 days.

There is some good news for customers using PDAs that are getting old and maybe thinking about replacing the PDA. Most Pocket PC manufacturers are now releasing PDAs running the Microsoft Windows Mobile 5 operating system. These units automatically install 3<sup>rd</sup> party applications into non-volatile (persistent) memory. Suddenly, lost of power to these PDAs becomes more manageable, just get power (from an AC or DC adapter or a charged battery pack), and you're ready to go.

### **Solution to the problem**

As discussed in last year's article, there are two ways to backup the Pocket PC. One way is to use the computer to which the PDA is synched. The other way is to backup to the non-volatile (persistent) memory on the PDA itself.

The backup to the PC works but it's cumbersome In that it takes time and you need that PC synchronized to the PDA to do both the backup and the restore. If you're in a hurry, that's

probably not the optimal solution, therefore, I won't discuss that process but refer those interested to the previous newsletter article (September 2005)

The other method can be done right on the Pocket PC itself, without connecting to a computer. Many of the more recently manufactured Pocket PCs (those running the Microsoft Windows Pocket 2002 and 2003 operating system) have a utility program that can perform the backup and restore processes to non-volatile memory on the Pocket PC.

These utilities may have different names, such as "Backup Now" and "Restore Now", "Sprite Backup", "iPAQ Backup", "Dell Backup", "Backup/Restore", "Data Backup", and there may be other program names as well. To begin the backup:

1. Close all other programs.
2. Then tap on "Start", "Programs", and then backup program icon.
3. Some programs may have a simplified option giving you only two choices initially, "Backup Now" or "Restore Now". You may tap on "Backup Now" to begin the backup. Here may be an "Options" menu choice at the bottom, which will allow the user to see a menu of folders and files, and choose exactly what data to backup by placing and removing checks in file boxes.
4. For programs that do not have simplified options, or if you choose the "specific files" option, place a check in the box next to each file, program, or folder you wish to have backed up. By default, all the boxes are usually checked and you may have to remove some.
5. Make sure you always back up the "Registry" of the Pocket PC. It is often listed last, under the last folder, in the backup files lists.
6. To restore a Pocket PC, go back into this program menu, or select "Restore Now" or a similar program icon under programs, and follow the directions on the screen to restore your Pocket PC.

The advantage of this method of backup and restoration is that it can be done almost anytime and anywhere. You do not need to be at your desk. If the battery drawn down and the PEAC-WMD application (or any other 3<sup>rd</sup> party application) is lost from volatile memory, simply connect an AC or DC power adapter and run the Restore application.

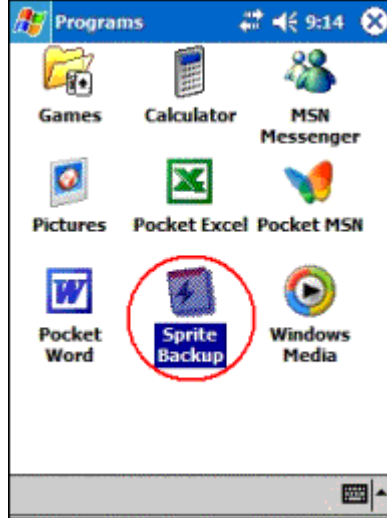
One advantage of the TDS Recon, a popular rugged PDA, is that it will automatically prompt the user to restore the unit when the power is restored after a power loss.

There are some disadvantages, however. The backup files take up volatile memory, which may be limited on your Pocket PC. If the Pocket PC is used for many different purposes (email, calendar, notes, contacts, other programs, etc.), there may not be enough non-volatile memory to back up all the important information. This will vary on the Pocket PC model. If there is not enough internal non-volatile memory on the PDA, the user can backup to a memory card. Memory cards (Compact Flash or Secure Digital) can now be purchased in sizes from 64 MB to 2 GB and prices range from about \$12 to \$112 per card. The only key is to remember to keep the card around to do the restore if the unit loses power. If the customer wants to do the backup to the memory card provided by AristaTek, that's a viable option.

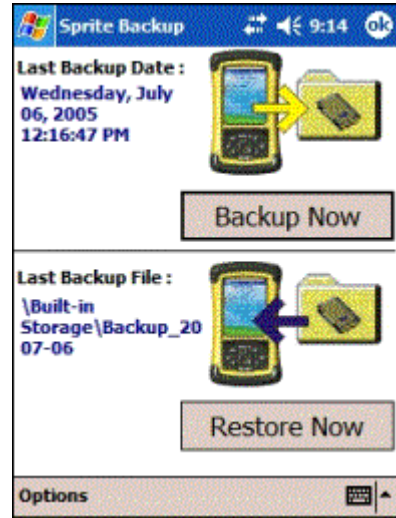
Some of the Pocket PC-based backup programs will look like the following images.



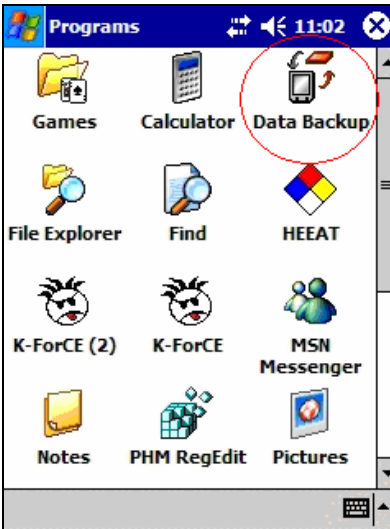
iPAQ Backup program icon



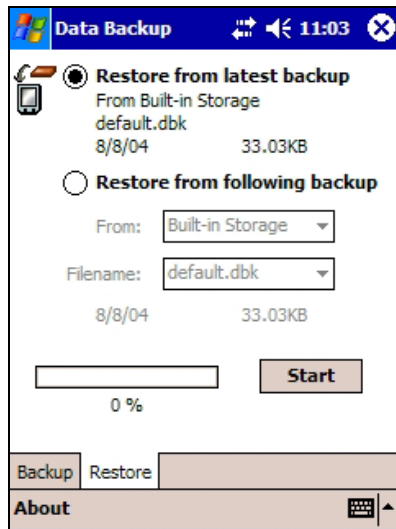
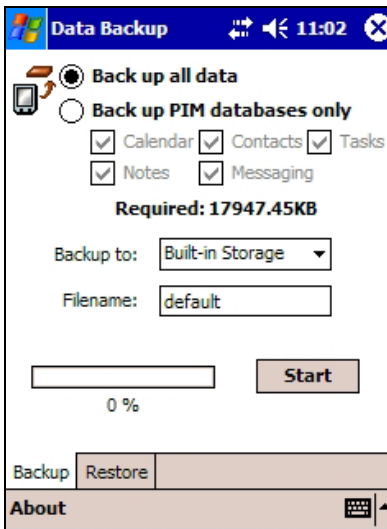
Sprite Backup on TDS Recon

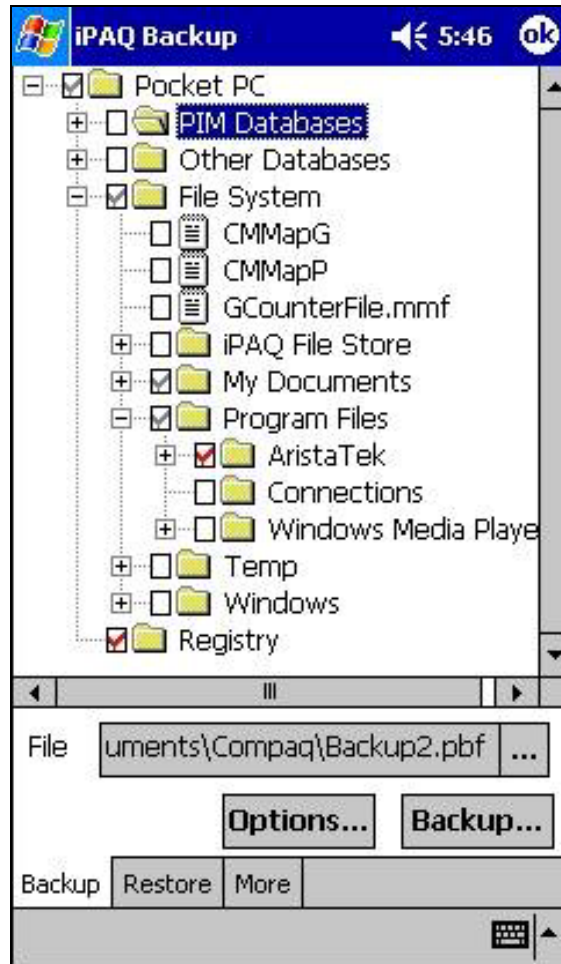


and how the program looks.

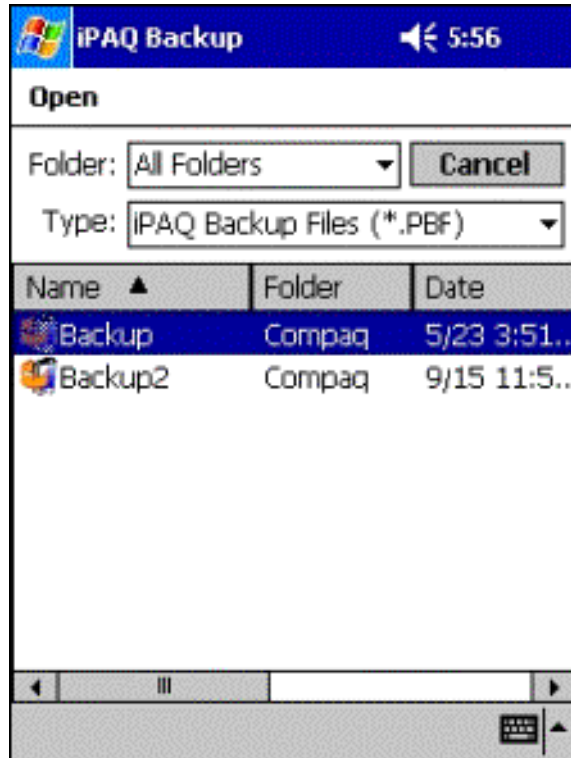


The Dell "Data Backup" icon, how the program looks, and the "Restore" tab screen.





This is an expanded view of the menu that is found in many backup programs, with the essential files and folders checked.



This is view of how the backup program looks on many HP iPAQ units.

Using the backup and restore functions can save the user a lot of stress and difficulty.

If a reader has questions or problems doing a backup and a restore, please call the AristaTek Technical Support and we'll help you through the process.