



# Pippin Standard File

version 003

*Abstract:* This document offers specific considerations for developers to keep in focus while developing new titles so they will be able to work effectively within Pippin storage limitations.

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## 1 Introduction

When developing titles for the Pippin Power Player, many assumptions about storage that are typically made in the Macintosh environment must be slightly altered. Unlike a Macintosh, Pippin does not have a hard disk and the only guaranteed storage media available is 128k of internal NVRAM (non-volatile random access memory). An optional floppy disk drive could be installed as well, but this should not be assumed. Of the 128k built-in NVRAM, 8k is used by the system software, leaving 120k for general purpose storage. Obviously, assumptions made about file storage while working with virtually unlimited hard disk space are very different than working with a limited and relatively small amount of storage.

The following sections offer specific considerations for developers to keep in focus while developing new titles so they will be able to work effectively within Pippin storage limitations. In general, however, developers should build their titles with the intention of eliminating unnecessary storage, or saved data. With such a small amount of storage, utilizing available NVRAM as efficiently as possible is critical.

## 2 Non-Volatile RAM (NVRAM)

The internal NVRAM is represented as a small HFS (Hierarchical File System) volume. By small HFS, this means that only two levels of hierarchy is allowed: the first level being the root level, the second level being folders appearing at the root level. In fact, within Pippin's NVRAM, folders can only appear at the root level, and no other folders are allowed within those folders. Nonetheless, despite this limited hierarchy, all normal file manager calls will treat NVRAM as a normal HFS disk.

## 3 Single Folder Per Title

In order to reduce confusion, it is strongly recommended that developers save all files, preferences, and any other data in a single folder at the root level of either the NVRAM or a floppy disk. This folder would have a name closely related to the title name, and a name that would be included as a string resource. The title-named folder will provide organization for the user, and further simplify tasks such as copying, moving, and deleting files that are associated with particular a title.

## 4 Preference Files

On the Macintosh, *Preferences* files are stored in the System Folder of the start-up disk. Since Pippin boots from a CD-ROM, dynamic Preferences files cannot be stored there. Therefore, if a title needs a writable Preferences file, it is suggested that the Preferences file also be stored in the title-named folder (see section 3). By ensuring that the Preferences file is of type 'pref:' it does not also need to be displayed to the user.

## 5 Pippin Standard File

Since the target audience for Pippin is not always computer users, the Macintosh Standard File is unnecessarily complex. New system software that simplifies the Standard File interface is provided on Pippin. Still, the new calls in the Pippin Standard File behave in a similar fashion to the Macintosh Standard File, and the main differences between the two is that the Pippin Standard File has larger colored icons, no 'New Folder' button, and no 'Desktop Button.'



There are several new Pippin Standard file functions described in `Pippin.h`. `PippinStandardGetFile`, `PippinStandardPutFile` and `PippinStandardDeleteFile` are the three main functions:

```
pascal void PippinStandardGetFile(FileFilterProcPtr filefilter
    short numTypes,
    SFTypeList typeList,
    StandardFileReply *reply);

pascal void PippinStandardPutFile(ConstStr255Param prompt
    ConstStr255Param defaultName,
    StandardFileReply *reply);

pascal OsErr PippinStandardDeleteFile(long *bytesRequested);
```

`PippinStandardGetFile` and `PippinStandardPutFile` in the Pippin Standard File work the same as `StandardGetFile` and `StandardPutFile` in the Macintosh Standard File.

`PippinStandardDeleteFile`, however, is a new call in the Pippin Standard File which was created so files may be deleted while a title is running. This call does not allow copying or moving of files though. These tasks should be accomplished with the Pippin Navigation CD, which is included with each shipped Pippin unit.

The Pippin Standard File calls the title-named folder that is also specified in the 'pipn' resource. This string is the same title-named folder as described in Section 3 where all storage for that title resides.