

Tools of the Trade

Table 1 lists all Apple IIGS technical manuals. They may be obtained from Addison-Wesley. Books covering 65816 and PD16 programming are also noted. Kudos go to Gary Little's book, *Exploring the Apple IIGS*. Step by step, it will teach you how to program in the new environment. Gary has a knack for presenting difficult material in a palatable fashion. A program disk may be acquired for an additional sum. Michael Fischer's extremely useful *Apple IIGS Technical Reference* is drier but more comprehensive.

TABLE 1: Technical Manuals for the Apple IIGS

1. *Technical Introduction to the Apple IIGS*
2. *Apple IIGS Hardware Reference*
3. *Apple IIGS Firmware Reference*
4. *Programmer's Introduction to the Apple IIGS*
5. *Apple IIGS Programmer's Workshop Reference*
6. *Apple IIGS Programmer's Workshop Assembler Reference*
7. *Apple IIGS Programmer's Workshop C Reference*
8. *Apple IIGS Debugger Reference*
9. *Apple IIGS Toolbox Reference: Volume 1*
10. *Apple IIGS Toolbox Reference: Volume 2*
11. *Apple IIGS ProDOS 16 Reference*
12. *ProDOS 8 Technical Reference Manual*
13. *Human Interface Guidelines*
14. *Apple Numerics Manual*

The Byte Works has written both the ORCA/M Assembler for the Apple IIGS and the APW Assembler, which comes with the *Apple IIGS Programmer's Workshop Reference* manual. The latter is my PD16 assembler of choice, for reasons cited in another section of this article.

PRODOS 16 ENVIRONMENT

An operating system stands between the hardware and firmware and the application. It enables the user to communicate with mass storage media. The desktop metaphor and graphics are characteristic of PD16 but need not be used in PD16 applications. The APW Assembler is an example of a text-based program that runs under PD16.

The System Disk

The System Disk provided by Apple Computer lets you execute programs that run under PD16 or PD8. The contents of version 3.1 occupy 1,326 blocks (663K) on a 3.5-inch disk and are noted in Table 2. A complete disk ideally contains all of the files on the System Disk. An application disk requires only those files which assure that the application will operate properly. Mandatory files are starred in Table 2. For a review of earlier system disks, consult Ken Kashmarek's article, cited at the end of this article.

On booting the unaltered System Disk, you

TABLE 2: Contents of System Disk v3.1

File Name	File	Type	Function	
PRODOS	SYS	SFF	*Handles loading and quitting	*
SYSTEM/	DIR	S0F	*Subdirectory for operating system	*
P8	SYS	SFF	ProDOS 8 operating system-v1.4	
P16	P16	SF9	ProDOS 16 operating system-v1.3	*
START	S16	SB3	Startup program	
SYSTEM.SETUP/	DIR	S0F	Subdirectory for tool initialization	*
TOOL.SETUP	STR	SB6	Tool initialization patches	*
ATINIT	DTS	SE2	AppleTalk programs	
ATLOAD.0	STR	SB6	AppleTalk initialization	
SOUND.INIT	STR	SB6	Sound initialization	
TOOLS/	DIR	S0F	Subdirectory for RAM-based tool sets	
TOOL.014	TOL	SBA	Window Manager	
TOOL.015	TOL	SBA	Menu Manager	
TOOL.016	TOL	SBA	Control Manager	
TOOL.018	TOL	SBA	QuickDraw Auxiliary Tool Set	
TOOL.019	TOL	SBA	Print Manager	
TOOL.020	TOL	SBA	LineEdit	
TOOL.021	TOL	SBA	Dialog Manager	
TOOL.022	TOL	SBA	Scrap Manager	
TOOL.023	TOL	SBA	Standard File Operations Tool Set	
TOOL.025	TOL	SBA	Note Synthesizer	
TOOL.027	TOL	SBA	Font Manager	
TOOL.028	TOL	SBA	List Manager	
DESK.ACCS/	DIR	S0F	Subdirectory for desk accessories	
DRIVERS/	DIR	S0F	Subdirectory for device drivers	
APPLETALK	SBB	SBB	AppleTalk driver	
IMAGEWRITER	SBB	SBB	ImageWriter driver	
LASERPREP	TXT	S04	LaserWriter driver setup	
LASERWRITER	SBB	SBB	LaserWriter driver	
MODEM	SBB	SBB	Modem driver	
PRINTER	SBB	SBB	Printer driver	
PRINTER.SETUP	BIN	S06	Printer driver setup	
FONTS/	DIR	S0F	Subdirectory for fonts	
COURIER.10	SC8	SC8	Courier font-10 point	
COURIER.12	SC8	SC8	Courier font-12 point	
GENEVA.10	SC8	SC8	Geneva font-10 point	
GENEVA.12	SC8	SC8	Geneva font-12 point	
HELVETICA.10	SC8	SC8	Helvetica font-10 point	
HELVETICA.12	SC8	SC8	Helvetica font-12 point	
SHASTON.16	SC8	SC8	Shaston font-16 point	
TIMES.10	SC8	SC8	Times font-10 point	
TIMES.12	SC8	SC8	Times font-12 point	
VENICE.14	SC8	SC8	Venice font-14 point	
FINDER	S16	SB3	Finder-v1.0	
LAUNCHER	S16	SB3	Program Launcher-v2.1	
SYS.UTILS/	DIR	S0F	*Subdirectory for ProDOS 8 System Utilities	
SYSUTIL.SYSTEM	SYS	SFF	System Utilities	
UTIL.0	BIN	S06	Utility programs	
UTIL.1	BIN	S06	Utility programs	
UTIL.2	BIN	S06	Utility programs	
FASTCOPY.SYSTEM	SYS	SFF	FastCopy disk copy utility	
BASIC.SYSTEM	SYS	SFF	*ProDOS 8 BASIC Interpreter-v1.1	
BASIC.LAUNCHER	SYS	SFF	*ProDOS 8 BASIC Interpreter launcher	
APPLETALK/	DIR	S0F	*Subdirectory for AppleTalk	
CHOOSEER.II	SYS	SFF	AppleTalk Chooser	
CHOOSEER.0	BIN	S06	AppleTalk Chooser program	
NAMER.II	SYS	SFF	AppleTalk Namer	
NAMER.0	BIN	S06	AppleTalk Namer program	
MTXABS.0	BIN	S06	MouseText program	
IWEM	TXT	S04	ImageWriter emulator	
ICONS/	DIR	S0F	*Subdirectory for desktop icons	
FINDER.ICONS	SCA	SCA	Icons for the Finder	
DIALOG.ICONS	SCA	SCA	*Icons for dialog boxes	
FINDER.DATA	SC9	SC9	*Directory/subdirectory data kept by Finder	

* mandatory file for an application system disk

• file in root directory