APPENDIX A

GLOSSARY

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active	Refers to a **process** that is currently requesting (and may be getting) **processor** execution time.
application program	A **program** written to perform a function that is an end in itself, such as a word processor. Contrast with a **utility**.
assembler	A **program** to convert **assembly language** source code to a **Relocatable Object File** containing **machine code** instructions.
assembly language	A symbolic (and therefore more easily read and edited) representation of **machine code**.
battery-backed	Describes a **chip** or circuit with a battery to maintain its operation when the main power is turned off.
boot	Short for "bootstrap". The bootstrap **program** in a computer exists in **ROM**. It is executed when the computer is turned on or reset. Its function is to load the **operating system** from disk, and execute the cold start function of the operating system. The term "bootstrap" originates from the concept of pulling oneself up by one's bootstraps (boot laces).
bootstrap	See **boot**.
bug	Programming error.
byte	8 bit binary number or memory location.
chip	An electronic circuit on a small, thin slice of silicon crystal, encapsulated in a plastic or ceramic case,

	with metal legs to make electrical contact with a circuit board.
co-processor	A **chip**, separate from the **processor**, that adds extra instructions to the instruction set of the processor, by means of a special intimate conversation between the two chips, known as the co-processor protocol. The co-processor may be built onto the same chip as the processor. Examples of this are the **MMU** in the 68030, and the **MMU** and **FPU** in the 68040.
compiler	A **program** that translates the **source code** of a **high level language** program into **assembly language**.
CPU	Central Processing Unit. See **processor**.
CRC	Cyclical Redundancy Check. A number of fixed length calculated by passing a data stream through a mathematical expression. A CRC is therefore a value that almost uniquely identifies a given block of data, such as an OS-9 **program module**, or a sector on a disk. Re-checking the CRC permits the computer to ensure that the data has not been altered or corrupted.
cyclical redundancy check	See **CRC**.
debugger	A **program** used to monitor the execution of a **program** or **operating system** under test, to look for **bugs**.
EPROM	Erasable Programmable Read Only Memory. **PROM** that can be erased with ultra-violet light.
FPU	Floating Point Unit. A **co-processor** providing floating point arithmetic instructions to supplement the instruction set of the **processor**. The 68000 and 68010 processors cannot support co-processors. The 68040 has the FPU co-processor built onto the processor chip.
function	See **software function**.
hexadecimal	The base 16 numbering system.
high level language	A formal programming language that does not

	directly correspond to the instructions the **processor** can execute. A **compiler** translates a high level language program into **assembly language**. C, Pascal, Fortran, Basic, and Modula-2 are all high level languages.
kernel	Under OS-9, the module containing all the essential functions of the operating system, such as **process scheduling** and memory allocation.
log in	The process of "signing on" to use a computer. Usually initiated by pressing [CR] at a **terminal** not currently in use.
long word	32 bit binary number or memory location.
machine code	The binary instructions known to (and executable by) the **processor**.
microprocessor	A **processor** on a single chip.
MMU	Memory management unit. A circuit (which may be on a single **chip**, and may be a **co-processor**) that is placed between the processor and the memory, to convert the processor's addresses into alternative (programmable) addresses, allowing the addressing of the memory to be dynamically altered, usually by blocks of 2 or 4k bytes. The MMU also provides memory protection facilities block by block - for example, a block may be write-protected. The 68030 and 68040 processors have MMU co-processors built into the processor chip.
module	Under OS-9, short for "memory module". A memory module is any block of computer data (including programs and operating system components), prefixed by a descriptive header structure, and terminated by a **CRC**.
operating system	A collection of **software functions** for the management of the resources of the computer.
OS-9	"Operating System for the 6809 **microprocessor**". Now primarily used on the Motorola 68000 family of microprocessors, and also adapted to 80386 and 80486 IBM PC compatible computers as **OS-9000**.
OS-9000	OS-9 adapted to IBM PC compatible computers

	and certain other **microprocessors**.
polling	Repeatedly checking a memory location or device status flag to see if action is required.
portability	A measure of how easy it is to adapt a **program** that runs on one computer or **operating system** to run on another computer or operating system.
position independent	Refers to a **program** or **operating system** component that executes correctly regardless of the memory address it is loaded at.
process	A **program** currently running on the computer. A process is not necessarily **active** – it may be **sleeping**.
processor	The part of the computer that reads and executes **program** instructions from memory, and reads and writes data in memory.
program	A list of instructions for the **processor** to execute to achieve a designed purpose. See **application program** and **utility**.
PROM	Programmable Read Only Memory. **ROM** that can be programmed from a computer using a special device (a PROM programmer).
RAM	Random Access Memory. Computer memory that can be read and written. Unless **battery-backed**, the contents of the memory are lost when the power is turned off.
re-entrant	Refers to a **program** or **operating system** component which does not modify its own instructions, and refers to its data structures relative to a **processor** address register. This allows the operating system to invoke multiple "incarnations" of the program that use the same program module in memory, by specifying a different data structure address.
relocatable	Under OS-9, the same as **position independent**. However, under some operating systems (not OS-9) a relocatable **program** is modified as it is loaded to compensate for the actual load address, so making it position independent.

relocatable object file	See **ROF**.
ROF	Relocatable Object File. Under OS-9, a file produced by the **assembler** from an **assembly language** text file. It contains the **machine code** instructions, and any public symbols and external references generated by the **source code**.
ROM	Read Only Memory. Computer memory that cannot be written to without a special programming device, but that retains its contents when the power is turned off.
scheduling	The management of multiple **processes** concurrently, such that they all get some share of the time of the **processor**.
semiconductor device	A **chip**.
sleeping	Refers to a **process** that is not currently requesting **processor** time.
software	**Processor** instructions.
software function	A set of **processor** instructions to perform a designated operation.
source code	Computer instructions in a textual representation, such as a **high level language** or **assembly language**.
systems programming	The writing of **operating system** components, such as device drivers.
task	Under OS-9, the same as **process**.
terminal	A device consisting of a keyboard and display, used for interactive input to a computer. A terminal that uses a dynamically modifiable screen for the display (as opposed to using a printer) is sometimes referred to as a **VDU**.
time slice	A unit of **processor** time given to each **process** in turn.
utility	A **program** designed to facilitate the use of the computer system, such as a utility to copy a disk file.
VDU	Visual display unit - see **terminal**.

word	16 bit binary number or memory location.