OS-9
Glossary

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active processes. Operations that the system is currently executing.

active state. An operating or working condition. A procedure in an active state is processing data and not waiting for another procedure to end.

address. A number that identifies a location in your computer's memory.

age. A count of the number of switches (process changes) the system has made since a process's last time slice.

anonymous directory. A directory referenced by its hierarchical position using the period (.) character. One period refers to the current directory. Two periods refer to the parent of the current directory, and so on.

application program. A process or group of processes designed to accomplish specific tasks, such as word processing, data management, game playing, and so on.

argument. Data you supply to a process or command for it to evaluate.

array. Data arranged so that each item is located by its row and column position. Single-dimensioned arrays have one or more rows and one column. Multi-dimensioned arrays have one or more rows and two or more columns.

ASCII code. American Standard Code for Information Interchange. A method of defining alphabetic and numeric characters and other symbols by giving each a unique value. For instance, the ASCII value for A is 65, and the ASCII value for B is 66.

assembler. A program that produces machine code from source code (code from a low-level computer language).

assembly language. A system for coding computer instructions to perform tasks. You can use assembly language code to directly manipulate data within a computer; therefore, assembly language needs less interpretation than higher level languages like BASIC or Pascal.

attribute. *See* file attribute.

background processing. Executing one or more procedures and at the same time continuing to operate in OS-9 or in another procedure.

backup. An identical copy of the contents of one disk on another disk.

base. The lowest value allowed in a function or operation. For instance, BASIC09 allows a base value of 1 for array structures unless you indicate otherwise.

batch file. *See* procedure file.

baud. Bits-per-second. A unit for measuring the speed of data flow between devices.

binary. A numbering system using only two digits, 0 and 1. In this system, shifting the position of a digit to the left raises the value of the digit by the power of 2. For instance, 1 is the binary equivalent of 1, 10 = 2, 100 = 4, 1000 = 16, and so on.

bit. The smallest unit of a computer's memory. Eight bits form a byte. Each bit can have a value of either 0 or 1.

bit map. A storage area of 256 bytes. Each bit represents one page (256 bytes) of your computer's memory. If a bit is set (equals 1) then its associated memory page is allocated. If a bit is reset (equals 0) then its associated memory page is free.

block. A group of data, often comprising 256 bytes.

block-oriented device. A device that receives data, sends data, or both, in groups of 256 bytes.

Boolean logic. A binary type of algebra developed by George Boole.

Boolean data type. A type of variable that can have only two values, True or False. Boolean data types usually store the results of comparisons, such as: is A greater than B (A>B), does Y equal X (Y=X), and so on.

boot. The process of loading and initializing OS-9.

bootfile. A disk file containing modules to be loaded during an OS-9 boot.

bootlist. A disk file containing a list of module names to be used by OS9Gen to create a bootfile.

bootstrap module. A program that contains the code necessary to initialize OS-9.

border. An area around a screen or window that defines the boundaries of the screen or window.

branch. To leave one routine and begin execution of another routine within a program or procedure.

breakpoints. Locations in a program or procedure at which you want execution to pause.

buffer. A temporary storage area through which OS-9 transfers data.

byte. A unit of computer memory storage that contains a value in the range 0-255.

byte data type. A numeric type of variable that can contain unsigned eight-bit integer data (in the range 0-255 decimal).

call. (1) To transfer execution to another routine, then return to the calling procedure with obtained values intact and available for use by the calling routine. (2) A built-in OS-9 routine that performs a system function.

CC3Disk. The floppy diskette driver module.

CC3IO. The system input/output driver.

chaining. A process of calling and turning over system control to a new procedure.

checksum. A value calculated from the contents of a file or module that the system can later use to verify whether the contents of the file or module are uncorrupted.

child or child process. A process begun from another (parent) process.

close. The process of deallocating the path to a device or file.

cluster. A group of sectors. In OS-9 for the Color Computer, a cluster consists of only one sector.

code. Numeric data that can be used by a computer to perform a task.

command. The name of an OS-9 program or function.

command line.   One or more commands with all their parameters, options, and modifiers.

command modifiers.   Data or values appended to a command that change the way the command functions.

command options.   Data that you can include in a command line to specify the way the command functions.

command parameters.   Data or values appended to a command that define or customize the command.

command separator.   A semicolon. You can use a semicolon to separate several commands on the same command line.

compile.   To create machine language code (object code) from a program written with a computer language. Also to translate high level code (from a high level language such as BASIC) into low level code (code that is like machine language).

complement.   A value that is derived by subtracting a number from a constant. For example, the 10s complement of 4 is 6. In binary, a value is complemented by changing all the 1 digits to 0 and all the 0 digits to 1, then adding 1 to the least significant (rightmost) digit.

complex data structure.   A group of data that contains two or more types of data structures. *See* data structure.

constant.   A value or block of data that is fixed (does not change during the run of a program or procedure).

CPU.   Central Processing Unit. An integrated circuit (chip) that controls the operation of a computer.

current directory.   The directory in which OS-9 looks for data files or stores data files unless you specify otherwise.

current line.   When editing, the line on which the editing cursor or pointer is located.

cursor (text).   A colored box that shows where the next character is to appear on the screen. A text cursor appears on both text and graphics windows or screens.

cyclic redundancy check (CRC).   A value the system calculates from the data stored in a module. The system calculates a new value each time it attempts to load the module. If the calculated value does not match the CRC value contained in the module, the system cannot load the module.

cylinder. A disk track that includes both sides of a disk. *See also* track.

DAT. Dynamic address translation. The memory management system used by OS-9 Level Two.

data directory. The directory in which OS-9 automatically saves files unless you specify otherwise.

data structure. A unit of data, organized for access.

data type. A method for representing data, such as character (ASCII value), integer (whole number), or real (floating point number).

deadlock. *See* deadly embrace.

deadly embrace. A situation in which two processes attempt to gain control of the same disk areas at the same time.

debug. To find and correct program errors.

decompile. To translate machine language code into a computer language code.

delimiter. A character that divides items. For instance, in OS-9, the semicolon is a delimiter that divides two commands on the same line.

descriptor. *See* device descriptors.

device. A data source, destination, or both. OS-9 devices can exist in your computer's memory (such as a window or a RAM disk), or they can be external equipment (such as a printer or disk drive).

device descriptors. Small tables that define a device, its name, its driver, and its file manager. Device descriptors also contain port initialization data and port address information.

device drivers. Modules that handle basic input/output functions for specific devices. Each device you use with your computer must have its own driver to interpret the code you send it.

device name. A unique system word for a device. The name for disk Drive 0 is /D0, the name for Window 1 is /W1, and so on.

device table. *See* device descriptor.

device window. An OS-9 device from which you can run a program or utility. Access device windows in the same manner as you do other devices. Each device window has its own input and output buffers. Refer to windows using device names (/W followed by a number), such as /W1, /W2, /W3, and so on.

directory. A file in which OS-9 stores a list of other files, including their names, locations on the disk, attributes, and so on.

disk allocation map. Logical Sector Number 1 on a disk. The data in LSN1 indicates which sectors are allocated to files and which sectors are free.

double click. To press and release the mouse button twice in quick succession when the pointer is over the desired location.

drag. To hold down the mouse button and move the mouse to a new position before releasing the button.

draw pointer. An indicator that determines where the next graphics draw command will begin unless you specify otherwise.

driver. *See* device driver.

dump. To write the contents of a video screen, a memory location or a file to another terminal, memory location, or file.

echo. To cause data being sent to one device to go to another device, as well.

edit. To change the data or values in a file or in your computer's memory.

edit buffer. An alternate workspace for the OS-9 Macro Editor.

edit macro. A series of commands you can execute with only a single command.

edit pointer. An indicator that determines where the next edit command is to operate unless you specify otherwise.

editor. A program that provides special commands to aid you in changing the contents of a file.

error code. A code that OS-9 displays when it cannot understand what you want it to do or when your computer or a peripheral malfunctions. Use the displayed code number to look up a description of the error.

error path.   The route through which OS-9 sends error codes and other information to display on the screen. The error path is designated as Path Number 2.

error trap.   A routine in a procedure that checks for an error and provides an alternate action (other than terminating execution and displaying a system error message).

executable file.   A program file that you can run by typing and entering its filename.

execute.   To start a procedure, program, or command (cause it to run).

execution directory.   The disk directory that contains your system's command files.

execution modifiers.   *See* command modifiers.

execution offset.   The location in a program or subroutine at which execution begins, calculated from the beginning of the module.

expressions.   Data items joined by arithmetic operators. *See also* operator.

expression stack.   A memory location in which BASIC09 stores temporary results while it evaluates an expression.

file.   (1) A block of information your computer uses for a particular function or program. A file can contain an operating system, a language, an application program, or text. (2) A collection of associated records, such as information about each book in a library.

file attribute.   Data that identifies a file, for instance its size, security status, language type, and so on.

file locking.   Protecting a file to ensure that one process does not change it while another process is using it.

file pointer.   An indicator that determines where in a file the next read or write operation is to occur unless you or the system indicates otherwise.

file security.   A set of attributes that determines who can use a file and in what manner.

filename.   A set of characters that uniquely identifies and locates a block of data stored on a disk.

filter. To alter data in some manner as it passes between two devices or between two memory locations.

flag. A symbol or value that indicates when a certain condition exists in a procedure.

font. A character set. A group of alphabetic and numeric characters and other symbols of a particular style and shape.

foreground. (1) An OS-9 task that takes priority over other concurrently running tasks. (2) Characters or designs on a screen or window.

fork. The process of initializing one procedure from another procedure.

format. To magnetically organize a diskette so that the computer can use it to store data.

function. In BASIC09, an operation that BASIC performs on data. A function always returns (produces) a value of some type.

Get/Put buffer. A buffer in which you or the system can store fonts, screen patterns, graphic displays, overlay windows, and other recallable data. The system allocates Get/Put buffers in 8-kilobyte blocks.

getstat. An OS-9 routine that gets (returns) the state or status of a specific system operation.

global variable. A variable that is available to all procedures and routines in a program.

graphics. An arrangement of elements (lines, dots, and so on) on your computer's screen.

graphics cursor. An indicator (either visible or invisible) that determines where the next graphic function is to occur on the screen unless you or a program specifies otherwise. In applications, you often move the graphics cursor using a mouse.

graphics pointer. *See* graphics cursor.

graphics screen. A screen in which all pixels are represented by bits in a memory map. You create images on the screen by manipulating the bits using special OS-9 or computer language commands.

graphics window. A window created on a graphics screen. You can display both graphics (drawn images) and text on a graphics window. The text generated on a graphics window/screen uses software fonts that you or the system must load into memory.

group. An organization of related data or files. For instance, OS-9's graphics buffers are organized into groups that you reference by number.

hardware. The physical parts of your computer, including its disk drives, keyboard, integrated circuits (chips), and so on.

header. Data located at the beginning of a file or module to identify its type, size, verification values, and so on.

hexadecimal. A number system to a base of 16 (using 16 digits). Hexadecimal digits are 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F. Shifting a hexadecimal digit one place to the left causes its value to be multiplied by 16.

high order bit. The most significant or leftmost bit in a byte. If the high order bit is 0, it represents a value of 0. If the high order bit is 1, it represents a value of 128.

I/O. Input/Output.

identification sector. Logical Sector Number 0 on a disk. LSN0 contains a description of the physical and logical organization of a disk.

immortal shell. An OS-9 shell that does not die on receiving an EOF signal (such as when you press CTRL BREAK).

integer data type. A type of variable that can store whole numbers in the range -32768 to 32767.

interactive window. A window that is getting input from the keyboard. This window is currently on the displayed screen.

interface. To link devices or modules together in order to transfer data.

internal integrity check. A system of internal values that OS-9 can use to make certain that its system modules and functions are accurate.

IOMAN. The input/output manager that provides common processing for all input/output operations.

IRQ. Interrupt request. A signal that causes the execution of one process to halt and the execution of another process to begin. The system retains the values of the first process so that it can later continue its execution.

kernel. OS-9 software that supervises the OS-9 system and provides basic system services, such as multitasking and memory management, and that links all system modules.

key sequence. Two or more keys you press at the same time to produce a specific function.

keyboard mouse. An OS-9 function that lets you use the keyboard arrow keys instead of an external mouse device. Press CTRL CLEAR to toggle the keyboard mouse on and off.

keyword. A command name.

kill. Terminate the execution of a process.

kilobyte. 1024 bytes.

link. To make a module available to a process.

link count. The number of processes using a module. When a module's link count reaches 0, OS-9 deallocates the module.

load. To transfer data from an external device into your computer's memory.

local variable. A variable that can be used by only the procedure or routine in which it resides.

locked. *See* file locking.

lockout. *See* file locking.

log in. To initiate the necessary procedure to operate OS-9 from a separate terminal (type in a user name and password).

logical address. An offset address. An address that is numbered from the beginning of a block rather than from the beginning of memory, a module, or other storage area.

logical sectors. Sectors that OS-9 or a program references in numeric order, regardless of their actual physical location on a disk.

loop. A sequence of BASIC09 commands that execute repeatedly a specified number of times or until a specific condition occurs to terminate the execution.

macro. A series of commands you can execute with only a single command name.

map. *See* memory map.

mask. A pattern of bits that you use in combination with a logical operator to change specified data selectively — reversing certain bits without affecting the others.

megabyte. One million bytes.

memory. The portion of your computer that stores data and values.

memory management. Assigning and mapping memory to keep track of modules (processes and data) and their uses.

memory map. A chart depicting the use of your computer's memory by the operating system.

menu. A screen display from which you select an action for your computer.

microprocessor. An integrated circuit (chip) that controls the basic operation of your computer.

mode. A particular function of a program or system.

modem. Modulator/demodulator. A device to prepare signals for transmission through telephone lines and to reverse the process after transmission.

modifier. *See* command modifier.

module. An OS-9 program or block of data residing in your computer's memory.

module body. A module's code (program or data), including the module name.

module directory. A table in your computer's memory that lists all the modules residing in memory.

module header. Code that resides at the beginning of all modules and that contains information about the module, including size, type, attributes, storage requirements, and its execution starting address.

monitor. The video display device connected to your computer.

mouse. A device you use to control a pointer on the display screen. In application programs, you can often use a mouse to indicate functions you want to initiate.

multi-programming. A method of computer operation in which the system allocates *slices* of execution time to more than one process in order to execute them concurrently.

multi-tasking. Executing more than one process at the same time.

multi-user. A system that lets more than one person access its functions at the same time.

nesting. Incorporating one structure into another structure of the same type. Both procedures then retain their individual identities.

non-shareable file. A file or module that can be used by only one procedure or user at one time.

null string. A string variable that does not contain a value (has a length of 0 characters).

object code. Machine language instructions.

offset. The difference between a location and a beginning location. For instance, you can tell some BASIC09 graphics functions to begin operation at a location that is offset from the current draw pointer position.

operand. A value that is used or manipulated during an operation or during the execution of an instruction.

operating system. A set of associated programs that carry out your commands.

operator. A symbol or word that signifies some action to be performed on specified data.

options. *See* command options.

output path. The route through which the system sends data from one device to another.

overflow. A condition in which a storage space is not large enough to contain the data sent to it.

overlay. A condition in which programs or modules in a computer's memory are replaced with other data.

overlay window.   A window opened or placed on top of a device window.

overwrite.   To replace data with other data.

owner.   An entity that has control over a file, module, or process.

pack.   To compile a BASIC09 procedure. *See* compile.

padding.   Adding spaces to a string or unit of data to make it a specific length.

page.   In your computer's memory, a block of 256 bytes.

paint.   To fill all or a portion of the screen with a color.

palette.   A register that contains a numeric code representing a color or shade.

parameters.   *See* command parameters.

parent or parent process.   A process that forks (starts) another process (a child process).

parity.   A system in which all binary numbers of a code are converted to either even-bit numbers (an even number of 1s) or odd-bit numbers (an odd number of 1s).

parse.   To search through a list or sequence of data.

Pascal.   A high-level computer language.

pass by value.   When BASIC09 passes a value from one procedure to another by evaluating a constant or expression and placing the result in temporary storage to be accessed by the second procedure.

pass by reference.   When BASIC09 passes a variable from one procedure to another by providing the second procedure with the address of the variable's storage.

passive window.   Any window that is not receiving input from the keyboard. A *process* can be running on a passive window provided that the process is getting its input from a source other than the keyboard.

pathlist. The route from one position in a disk's directory to another directory or file.

peripherals. Devices connected to your computer, such as printers, disk drives, and so on.

permission. The attributes of a file or module that determine who can use the file or module and in what manner.

physical sectors. The actual arrangement of sectors on a disk's surface, regardless of any internal organization by OS-9.

pipe. A function in which the output of one process becomes the input of another process.

pipeline. A series of commands, each of which passes the results of its operations to the next command in the series.

PIPEMAN. The pipe file manager. Pipes are memory buffers acting as files to transfer data between processes.

pixel. The smallest area of a display screen that can be manipulated (turned off or on).

pointer. An indicator that determines a location in memory, in a file, or on the screen.

port. A junction between devices through which data flows. An electrical connection between your computer and a peripheral.

position independent module. A module that need not be loaded at any certain location in memory.

procedure. A program or routine your computer can execute.

procedure file. A file containing one or more OS-9 commands. You can execute a procedure file in the same manner as you execute OS-9 commands or programs.

process. A computer program or a routine that performs a specific task as part of a computer program.

process descriptor. A block of data that includes information about a process, its state, memory allocations, priority, queue pointers, and so on.

process ID. A unique number the system gives each process it executes.

process priority. A value you or the system gives to a process that determines the amount of CPU (execution) time it is to receive in a multi-tasking environment.

process state. The condition of a process in regard to its execution. A process can be active (executing), waiting (awaiting its turn for processing), or sleeping (inactive until it receives a signal to awaken).

program. Code that causes your computer to perform some function or a series of functions.

program modules. Executable code. Modules you can run to perform a function or series of functions.

public. Any user of a program or module other than the owner. *See* owner.

purge. Delete. Usually refers to removing all, or a selected group, of files from a directory.

RAM. Random access memory. Computer memory you can write to (change) and read from.

RAM disk. A portion of your computer's memory that OS-9 can use for data storage and retrieval in the same manner as it uses an external disk drive. However, be certain you copy RAM disk data to a floppy diskette or hard disk before you exit OS-9 or turn off your computer. If you do not, the data is lost.

random access. Reading (accessing) information in a block of data without first having to read any preceding data.

raw data. Unformatted information that is passed to a device exactly as it exists.

RBF. The random block file manager that processes all disk input/output.

re-entrant programs. Programs or modules that can be used by more than one process at the same time.

read. The process of transferring data from a device into the computer's memory.

read permission. System permission to read (withdraw data from) a file.

real data type.   A type of variable that can store floating point numbers in the range $\pm 1 \times 10^{\pm 38}$

record.   A collection of related data items that a program or process considers to be a unit for the purpose of processing. A subdivision of a file, such as all information about a single item in an inventory file.

record locking.   Protecting a portion of a file to ensure that one process does not change it while another process is using it.

recursive procedure or routine.   A procedure or routine that repeatedly executes itself (that contains a statement causing it to run itself one or more times).

register.   A location within a computer's memory (often in the CPU) for storing values during arithmetic, logic, or transfer operations.

remarks.   Text contained in a program that describes the program itself and that is not to be executed.

ROM.   Read only memory. Computer memory containing constant values that the computer can read but cannot change.

ROOT directory.   The parent directory of all files and directories on a disk. The ROOT directory is created by FORMAT.

run.   To execute, or to cause a program or procedure to start.

runtime.   The duration of a program's execution.

SCF.   The sequential character file manager that handles non-disk input/output operations to devices such as printers and terminals.

scratched.   Destroyed. When you copy one file over another file, or the contents of one disk onto another disk, any data existing in the second file or on the second disk is scratched.

sector.   A division of a disk track. Disk tracks are organized into several sectors.

seek.   To position a file pointer at a specific byte location in a file.

semigraphics.   Graphics (designs on the display screen) using ASCII graphic characters.

sequential access. The process of reading data in order, one character at a time.

sequential execution. Executing a series of commands or processes, one after the other.

sequential file. A file consisting of records of various lengths that must be accessed one after the other, starting at the first record.

serial. Refers to transmissions in which data leaves or arrives at a location or device, with data units following one after the other in space or time.

Setstat. An OS-9 routine that sets (changes) the state or status of a specific system operation.

shell. The command interpreter.

sibling. One of two or more processes executed by the same parent process.

sign bit. The leftmost bit of a binary number that serves as an indicator to show whether the number is positive or negative. Normally, a value of 0 indicates positive, and a 1 indicates negative.

signal. An interrupt from the system or another process that changes a procedure's or a device's state. For example, signals set an active process to a waiting state, awaken an inactive or sleeping process, or change the display window.

single step. A procedure in the Debug mode that lets you execute one procedure statement and (optionally) view the results.

single-user file. A file that only one person can access at a time.

single-user module. A program that only one person can use at a time.

sleeping state. A situation where you or the system suspends a process for a specified time or until you or the system sends it a wakeup signal.

source code. Program code produced using a computer language. Before it can control a computer, source code must be translated into machine language, either by a compiler or a translator program. *See also* compiler.

stack. A storage area in your computer's memory in which data can be placed or recovered in sequence, from one end only.

standard error path. The route through which your computer sends error codes and other messages to the screen.

standard input path. The route through which you can send data to your computer (usually the keyboard).

standard output path. The route your computer uses to send data to the screen.

start up. To turn on your computer and initialize OS-9.

stop bits. One or two bits that a terminal program sends after each unit of data to indicate that the transmission of the unit is complete.

string. A group of alphanumeric characters.

string data type. A type of variable that can contain one or more ASCII values (values representing alphanumeric characters or other symbols). String data types can be any length, up to the capacity of your computer's memory.

structured programming. Building a program out of a series of procedures, each of which performs a specific task but combines with its associated procedures as one program.

subdirectory. A directory that resides within another (parent) directory.

subroutine. An operation that performs a specific task as part of a larger operation.

super user. The system user who has control of the entire system and access to all system files and modules. User Number 0.

symbolic debugging. An error correcting system that lets you pause program execution and view the current values of variables, using their program names.

syntax. The rules for forming legal instructions for your computer.

system. (1) A group of files and programs that provide you with control over your computer. (2) Your computer with all its attached devices.

system call. Built-in OS-9 routines that perform particular functions, such as accessing disk files, printing data on the screen, and so on.

table. A storage area in memory or on disk containing ordered data to be used by a process or function.

task. A unit of work performed by your computer.

terminal. A computer or an electronic device, with a screen and keyboard, connected to your Color Computer 3. You can access OS-9 functions from a terminal in the same manner as you can access them from your Color Computer 3 keyboard.

text files. Files containing printable characters, or the code representing such characters.

text screen. A Type 1 or 2 screen. Text screens use hardware generation of characters (fonts are not definable) and are often referred to as hardware screens or windows. Text screens cannot display graphics. Text operations occur faster in text windows/screens than on graphic windows/screens.

text window. Any window created on a hardware text screen.

time slice. The period of time between system clock ticks. A tick occurs every 1/60th of a second.

timesharing. A situation in which more than one person uses the same operating system.

token. In the BASIC language, a numeric value that represents a keyword.

trace. To display each procedure statement as it executes and view its results.

tracks. Magnetically created concentric circles created on a disk for the storage of data. Tracks are established when you format a disk.

transparent characters. Characters that display over screen images without erasing any of the area surrounding the characters.

unlink. To remove a module (program) from your computer's memory.

update mode. The condition of a file when it is open for both reading and writing.

user ID. A number that identifies the operator to which a process belongs.

user number. *See* user ID.

utility. A short program that performs a frequently required task, usually for the maintenance of your computer system or files.

variable. A unit of storage with no fixed value. You define a variable and locate it in your computer's memory using a variable name.

VDG. Video Display Graphics.

vector. A graphics line or portion of a line.

verify. To check data for accuracy.

wait state. A situation in which a process remains suspended until one of its child processes terminates or until it receives a wakeup signal from the system.

wake up. To continue the execution of a process that has been suspended.

wild card. A symbol that represents or takes the place of one or more other characters or symbols.

WINDINT. Window interface.

window. All or a portion of your video screen with specific formats (columns, lines, size, colors, and so on) and type (graphics, text, or both). An area of a screen in which you can run a process or which can receive input.

word length. The number of bits to transmit as one unit.

workspace. A portion of your computer's memory that BASIC09 establishes for the storage and manipulation of procedures.

write. To transfer data from the computer's memory to a device.

write permit. System permission to change the data in a file.

write protect. A method of protecting a diskette so that your computer cannot change the data on it.