

Chapter 10. File Specification and Naming

The *File Specification and Naming* standard defines the PDS conventions for forming file specifications and names. This chapter is based on levels 1 and 2 of the international standard ISO 9660, "Information Processing - Volume and File Structure of CD-ROM for Information Interchange."

ISO 9660 Level 1 versus ISO 9660 Level 2

PDS recommends that archive products adhere to the ISO 9660 Level 1 specification. Specifically, CD-ROM volumes that are expected to be widely distributed should use file identifiers consisting of a maximum of eight characters in the base name and three characters in the extension (i.e., "8.3" file names).

When there are compelling reasons to relax the 8.3 file name standard, the ISO 9660 Level 2 specification with respect to file names *only* may be used, subject to the restrictions listed in Section 10.1.2.

10.1 File Specification Standards

A file specification consists of the following elements:

1. A complete directory path name (as discussed in the *Directory Types and Naming* chapter of this document)
2. A file name (including extension)

The PDS has adopted the UNIX/POSIX forward slash character (/) as the directory separator for use in path names. Directory path name formation is discussed further in the *Directory Types and Naming* chapter of this document.

The following is an example of a simple file specification. The file specification identifies the location of the file relative to the root of a volume, including the directory path name.

File Name: TG15N122.IMG

File Specification: TG15NXXX/TG15N1XX/TG15N12X/TG15N122.IMG

Do not use path or file names that correspond to operating system specific names, such as:

AUX COM1 CON LPT1 NUL PRN

10.1.1 ISO 9660 Level 1 Specification

A file name consists of a base name and an extension, separated by a full stop character (“.”). Under ISO 9660 Level 1, the length of the base name may not exceed eight characters and the extension may not exceed three characters. In addition, a version number consisting of a semicolon and an integer must follow the file identifier. The base name and extension may only contain characters from the following set: the upper case alphanumeric characters (A- Z, 0-9) and the underscore (“_”). Collectively, these requirements are often referred to as the “8.3” (“8 dot 3”) file naming convention. These limitations exist primarily to accommodate older computer systems that cannot handle longer file names. Since PDS archive volumes are designed to be read on many platforms, including PCs, these restrictions are necessary.

Preferred format: BASENAME (1..8 characters) "." EXTENSION (3 characters)

Allowable format: BASENAME (1..8 characters) "." EXTENSION (1..3 characters)

Actual format

on archive medium: BASENAME (1..8 characters) "." EXTENSION (1..3 characters) ";1"

10.1.2 ISO 9660 Level 2 Specification

The PDS use of ISO 9660 Level 2 file names adheres to all the above restrictions, with one exception: the base name may be up to 27 characters long (total file name length not to exceed 31 characters). Thus, this format is sometimes referred to as the “27.3” format.

Note: In rare cases the following variations are allowed on the 27.3 format file name:

- The file name portion may be up to 29 characters long; or
- The extension may be up to 29 characters long.

In no case, however, may the total file name length, including the “.”, exceed 31 characters.

Preferred format: BASENAME (1..27 characters) "." EXTENSION (3 characters)

Allowable format: BASENAME (1..29 characters) "." EXTENSION (1..29 characters)

Actual format

on archive medium: BASENAME (1..29 characters) "." EXTENSION (1..29 characters) ";1"

Note that *only* the file name specification for Level 2 may be used in PDS archive volumes. All other Level 2 extensions are prohibited.

10.2 Reserved Directory Names, File Names and Extensions

A number of file names, directory names and file extensions are reserved for files that are required in PDS archive volumes under various circumstances. These reserved names and extensions are listed in the following sections for easy reference. For details concerning what directories and files are required where and when, see the indicated chapter.

10.2.1 Reserved Directory Names

The following directory names are reserved. The contents of these directories are described in Chapter 19, *Volume Organization and Naming*.

BROWSE
 CALIB
 CATALOG
 DATA
 DOCUMENT
 EXTRAS
 GAZETTER
 GEOMETRY
 INDEX
 LABEL
 SOFTWARE

10.2.2 Reserved File Names

The following file names are reserved. Not all of them are required in all cases. For a complete description of what files are required where and when, see Chapter 19, *Volume Organization and Naming*.

AAREADME.TXT	GAZINFO.TXT	PERSON.CAT
BROWINFO.TXT	GEOMINFO.TXT	REF.CAT
CALINFO.TXT	INDEX.TAB	SGIINFO.TXT
CATALOG.CAT	INDXINFO.TXT	SOFTINFO.TXT
CATINFO.TXT	INST.CAT	SUNINFO.TXT
CUMINDEX.TAB	INSTHOST.CAT	VOLDESC.CAT
DATASET.CAT	LABINFO.TXT	VOLDESC.SFD
DOCINFO.TXT	MACINFO.TXT	VOLINFO.TXT
ERRATA.TXT	MISSION.CAT	ZIPINFO.TXT
EXTRINFO.TXT	PCINFO.TXT	

10.2.3 Reserved Extensions

The following file extensions are reserved. A brief description is provided in the table below. Additional detail is contained in Chapter 19, *Volume Organization and Naming*, and Chapter 9, *Documentation Standard*.

Extension	Description (use with files of this type)
ASC	Plain ASCII documentation files
BC	SPICE Binary format CK (pointing) files
BSP	SPICE Binary format SPK (ephemeris) files
CAT	Catalog object(s)
CSV	SPREADSHEET object(s)
DAT	Binary files (other than images)
DLL	Dynamic Link Library
DOC	Microsoft Word document
EPS	Encapsulated Postscript
EXE	Application or Executable
FMT	Include file for describing data object (meta data)
GIF	GIF image
HTM <i>or</i> HTML	HTML document
IBG	Browse image data
IMG	Image data
IMQ	Image data that have been compressed
JPG	JPEG image
LBL	Detached label for describing data object
LIB	Library of object files
MAK	Makefile for compiling / linking application or executable
OBJ	Object file
PDF	Adobe PDF document
PNG	Portable Network Graphics
PS	Postscript
QUB	Spectral (or other) image QUBEs
RTF	Rich Text document
TAB	Tabular data, including ASCII TABLE objects with detached labels
TEX	TeX or LaTeX document
TI	SPICE Text IK (instrument parameters) files
TIF <i>or</i> TIFF	Tagged Image File Format documents
TLS	SPICE Leap seconds kernel files
TPC	SPICE Physical and cartographic constants kernel files
TSC	SPICE Spacecraft clock coefficients kernel files
TXT	Plain text documentation files
XC	SPICE Transfer format CK (pointing) files
XES	SPICE E-kernel files
XSP	SPICE Transfer format SPK (ephemeris) files
ZIP	Zip-compressed files within PDS

Table 10.1 – Reserved File Extensions

10.3 Guidelines for Naming Sequential Files

In cases where file names are constructed from a time tag or sequential data object identifier, the following forms are suggested (but not required):

Pnnnnnnn.EXT

where “.EXT” is the file extension (see above) and P is a character indicating:

- C *nnnnnnnn* is a clock count value (e.g., “C3345678.IMG”)
- T *nnnnnnnn* is a time value (e.g., “T870315.TAB”)
- F *nnnnnnnn* is a frame ID or an image ID (e.g., “F242AO3.IMG”)
- N *nnnnnnnn* is a numeric file identification number (e.g., “N003.TAB”)

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