

PDS Standards Reference INDEX

A

AAREADME.TXT	9-2, 19-2, A-139, G-2
contents	D-2
example	D-3
Acronym list	
Standards Reference	F-1
ALIAS object	
definition	A-3
aliases	
for data types	3-1
ancillary data product	
contents	5-15, 6-2
contents (diagram)	6-1
ancillary files	9-4, 19-2, 19-10
ancillary volume	19-2
ARRAY object	13-2, A-1, A-15, A-36
definition	A-4
ASCII files	
containing markup	9-4
format	9-2
record format	15-1
ASCII tables	10-5, A-119
ASCII_COMPLEX	3-3
ASCII_INTEGER	3-3
ASCII_REAL	3-3
AXIS_ITEMS	A-4
AXIS_NAME	A-4, A-78, A-80, A-92, A-95

B

BACKPLANE	A-77, A-90, H-4
BAND_BIN	A-78, A-94
group definition	H-3
BAND_STORAGE_TYPE	A-65
BAND_SUFFIX	A-80, A-94
group definition	H-4
BANDS	2-7, A-65, A-79, A-92, A-107, H-3
Bernoulli Disks	
delivery medium	11-1
binary data	

bit string format	3-5
integer formats	3-5
binary storage formats	C-1
binary tables	A-122
spare bytes	A-122
BINHEX utility	11-3
bit field representation	3-5
BIT_COLUMN object	3-1, A-17, A-122
definition	A-8
BIT_DATA_TYPE	
standard values	3-1
BIT_ELEMENT object	13-2, A-1, A-5
definition	A-11
BIT_STRING	3-3, 3-5
body coordinates	
prime meridians	2-3
spin axes	2-3
BOOLEAN	3-3
BOTTOMPLANE	A-90, H-3
BYTES	A-16, A-55, A-119

C

CALIB subdirectory	8-1, 19-11
calibration data	6-2, 8-1
calibration files	19-11
calibration subdirectory	8-1, 19-11
CALINFO.TXT	19-11
CATALOG directory	19-8, B-1
catalog information	6-2
catalog object files	19-8, B-1
CATALOG object	
definition	A-12
catalog objects	B-1
DATA_SET	B-4, B-18, B-19, B27, B-28, B-29
DATA_SET_COLL_ASSOC_DATA_SETS	B-11
DATA_SET_COLLECTION	B-13
DATA_SET_COLLECTION_INFO	B-16
DATA_SET_COLLECTION_REF_INFO	B-12
DATA_SET_HOST	B-4, B-5, B-18
DATA_SET_INFORMATION	B-4, B-19
DATA_SET_MAP_PROJECTION	B-23, B-27
DATA_SET_MAP_PROJECTION_INFO	B-26
DATA_SET_TARGET	B-29
DS_MAP_PROJECTION_REF_INFO	B-30
how to supply	19-8

IMAGE_MAP_PROJECTION	B-31
INSTRUMENT	B-36, B-48
INSTRUMENT_HOST	B-41, B-43, B-44
INSTRUMENT_HOST_INFORMATION	B-41, B-43
INSTRUMENT_HOST_REFERENCE_INFO	B-41, B-48
INSTRUMENT_INFORMATION	B-36, B-45
INSTRUMENT_REFERENCE_INFO	B-36, B-48
INVENTORY	B-49, B-51
INVENTORY_DATA_SET_INFO	B-51, B-52
INVENTORY_NODE_MEDIA_INFO	B-52
MISSION	B-53, B-59, B-60, B-62
MISSION_HOST	B-53, B-59, B-63
MISSION_INFORMATION	B-53, B-60
MISSION_REFERENCE_INFORMATION	B-53, B-62
MISSION_TARGET	B-63
PERSONNEL	B-64, B-66, B-67
PERSONNEL_ELECTRONIC_MAIL	B-64, B-66
PERSONNEL_INFORMATION	B-64, B-67
REFERENCE	B-28, B-68
SOFTWARE	B-75, B-77, B-78, B-79
SOFTWARE_INFORMATION	B-75, B-77
SOFTWARE_ONLINE	B-75, B-78
SOFTWARE_PURPOSE	B-75, B-79
TARGET	B-80, B-82, B-83
TARGET_INFORMATION	B-80, B-82
TARGET_REFERENCE_INFORMATION	B-83
catalog pointer	19-9
CATALOG subdirectory	19-8, 19-12
CATALOG.CAT	19-8
CATINFO.TXT	19-8
CD-Recordable	
delivery medium	11-1
CD-ROM	
delivery medium	11-1
formatting recommendations	11-1
remastering	11-2
CHARACTER	3-3
CHECKSUM	A-67
citations	B-68
contents	
articles	B-70
books	B-70
electronic journal articles	B-72
electronic publications	B-71
PDS data sets	B-71
physical media	B-72

CITATION_DESC	B-21
example	B-5
formation rule	B-21
CLEM-JPEG	
as data compression format	I-3
CODMAC numbers	<i>See data processing level</i>
COLLECTION object	A-1, A-4, A-6, A-36
definition	A-15
COLUMN object	A-3, A-8, A-85, A-123
and CONTAINER	A-20
definition	A-16
vectors	A-16
combined-detached labels	
and compressed data	I-8, I-13
COMPLEX	3-4
Compliance waivers	1-1
COMPRESSED_FILE	I-13
compression	I-1
compression formats	
CLEM-JPEG	I-3
HUFFMAN FIRST DIFFERENCE	I-4
JPEG 2000	I-5
PREVIOUS PIXEL	I-10
RUN LENGTH	I-11
ZIP	I-12
CONFIDENCE_LEVEL_NOTE	
headings	B-21
CONTAINER object	A-16
definition	A-20
in TABLE	A-139
CUMINDEX.LBL	19-11
CUMINDEX.TAB	19-11
cumulative index	19-11

D

DAT tape	
delivery medium	11-1
data compression	I-1
data delivery	
media	11-1
data dictionary files	6-2, 19-12
PDSDD.FUL	19-12
PDSDD.IDX	19-12
See Planetary Science Data Dictionary	19-12
data elements	

data identification	5-14
descriptive	5-16
file characteristics	5-10
locally defined	5-18
proposing new	5-15
required and optional	5-11
standards identifiers	5-9
syntax	
summary	5-17
data files	
contents	19-10
record format	15-1
data identification data elements	5-14
data identification elements	
required for ancillary data	5-15
required for Earth-based data	5-15
required for spacecraft data	5-15
data objects	A-1
ALIAS	A-3
ARRAY	A-4
BIT_COLUMN	A-8
BIT_ELEMENT	A-11
CATALOG	A-12
COLLECTION	A-15
COLUMN	A-16
CONTAINER	A-20
DATA_PRODUCER	A-27
DATA_SUPPLIER	A-29
definition of	5-11
DIRECTORY	A-31
DOCUMENT	A-33
ELEMENT	A-36
FIELD	A-38
FILE	A-41
GAZETTEER_TABLE	A-45
HEADER	A-55
HISTOGRAM	A-57
HISTORY	A-60
IMAGE	A-64, A-74
INDEX_TABLE	A-69
object definitions	5-16
PALETTE	A-74
QUBE	A-77
SERIES	A-85
SPECTRAL_QUBE	A-90
SPECTRUM	A-112

SPICE_KERNEL	A-115
SPREADSHEET	A-118
standard data objects	5-16
TABLE	A-123
TEXT	A-144
VOLUME	A-146
data pointers	14-1
Data Preparation Workbook	1-1
data processing level	6-7
CODMAC numbers	6-6
DATA_PRODUCER object	A-29
definition	A-27
data product	
and PRODUCT_ID	4-1
definition	4-1
file configurations	4-2
labels	5-1
label example	4-2
primary data object	4-1
relation to data set	6-1
relation to data set collection	6-1
secondary data object	4-1
data representation	
internal	C-1
data set	
contents	6-1
definition	6-1
naming and identification	6-2
Non-compliant	1-1
processing level	6-6
relation to data products	6-1
reprocessed, version number	6-8
data set collection	
contents	6-1
contents (diagram)	6-1
definition	6-1
naming and identification	6-3
relation to data products	6-1
reprocessed, version number	6-8
data set description	
acronyms	6-7
data set type	
acronyms	6-7
DATA_SET object	A-41, B-18, B-19, B-28, B-29
definition	B-4
DATA_SET_COLL_ASSOC_DATA_SETS object	

definition	B-11
DATA_SET_COLLECTION object	B-11, B-12, B-16, B-17
definition	B-13
DATA_SET_COLLECTION_DESC	B-16
DATA_SET_COLLECTION_ID	
constituent components	6-3
data set type	6-7
description	6-7
example	6-9
standard acronyms and abbreviations	6-4
syntax	6-4
version number	6-8
DATA_SET_COLLECTION_INFO object	
definition	B-16
headings	B-17
DATA_SET_COLLECTION_NAME	
constituent components	6-3
example	6-9
DATA_SET_COLL_REF_INFO object	
definition	B-12
DATA_SET_DESC	B-1
headings	B-20
subheading formats	B-1
DATA_SET_HOST object	
definition	B-18
DATA_SET_ID	A-150, A-151, B-52
constituent components	6-2
data set type	6-7
description	6-7
example	6-8
satellite and ring names in	6-5
standard acronyms and abbreviations	6-4
syntax	6-4
version number	6-8
DATA_SET_INFORMATION object	
definition	B-19
DATA_SET_MAP_PROJECTION object	B26, B-31
definition	B-23
DATA_SET_MAP_PROJECTION_INFO object	B-30
definition	B-26
DATA_SET_NAME	
constituent components	6-2
example	6-8
satellite and ring names in	6-5
DATA_SET_REFERENCE_INFORMATION object	B-4, B-5
definition	B-28

DATA_SET_TARGET object	B-4, B-5
definition	B-29
DATA_SET_TERSE_DESC	
example	B-5
DATA subdirectory	19-9
data submission	11-1
DATA_SUPPLIER object	A-27
definition	A-29
data type	
data elements	3-1
DATA_TYPE	
standard values	3-1
data types	
table of data elements	3-2
table of standard values	3-4
DATE	3-4
date format	
conventional	7-2
native	7-2
precision	7-1
syntax	7-1
DD_VERSION_ID	5-10
delivery media	11-1
description pointers	14-2
descriptive data elements	5-16
directories	
path names	8-4
reserved names	8-1, 10-3
standard directories	8-1
DIRECTORY	8-4
directory names	
and ISO 9660	8-4
syntax	8-2
directory naming	8-1
DIRECTORY object	A-147
definition	A-31
directory paths	
and ISO 9660	8-4
syntax	8-4
directory structure	
example	8-3
on sequential media	8-4
Distributed Inventory System	
DIS.LBL	G-2
DOCINFO.TXT	9-2, 19-12, A-144
DOCUMENT	9-2

ASCII version.....	A-33
DOCUMENT object.....	9-2
definition	A-33
DOCUMENT subdirectory	19-12, I-8, I-13
documentation	6-2, 9-1
and DOCUMENT object.....	A-33
ASCII file format.....	9-3
ASCII version.....	A-33
criteria for inclusion	9-1
example	
attached TEXT	9-5
detached.....	9-5
with graphics	9-6
file labeling	
DOCUMENT object, use of.....	A-33
format	9-1
HTML.....	9-1, 9-4
labels for	9-2
markup files.....	9-4
non-ASCII files	9-5
required ASCII format.....	9-1
TeX/LaTeX	9-1
validation.....	9-5
DS_MAP_PROJECTION_REF_INFO object	
definition	B-30
DVD media	
archive format.....	11-2
DVD-R	
delivery medium.....	11-1
DVD-ROM	
delivery medium.....	11-1
formatting recommendations.....	11-2
premastering	11-2
UDF	11-2

<i>E</i>

EARTH_BASE_ID	B-37
EBCDIC_CHARACTER	3-4
ELEMENT object.....	A-1, A-6
definition	A-36
ENCODING_TYPE	9-5
END statement	5-17, 16-5
Ephemeris time (ET)	7-4
ERRATA.TXT	19-8
Exabyte tape	

delivery medium.....	11-1
extensions	
table of.....	9-3
Extended Attribute Records (XARs)	
on delivery disks.....	11-1
EXTRAS subdirectory	19-13
EXTRINFO.TXT	19-13

<i>F</i>

field delimiters.....	A-142
FIELD object	
definition	A-38
example	A-39, A-40
in SPREADSHEET	A-38
file characteristics data elements.....	5-10
file extensions	
reserved extensions.....	10-3
FILE object.....	A-31, I-8, I-13
definition	A-41
explicit.....	5-8
implicit.....	5-8, A-41
table of required and optional elements	A-42
FILE_NAME.....	5-11, A-41
file names	10-1
27.3 convention	10-2
8.3 convention	10-2
ISO 9660 Level 1	10-2
ISO 9660 Level 2	10-2
NAIF conventions	E-13
reserved extensions.....	10-3
reserved names	10-3
sequential file names	10-5
syntax.....	10-2
FILE_RECORDS	5-10
file specification	
definition	10-1
example	10-1
file specification and naming	
required file examples	D-12
FILE_STATE	A-78
FLOAT	3-4
floating point	3-6
floating point representation.....	3-6
FORMAT70 program.....	B-2
format specifications	3-7

for ASCII data files	3-7
for binary data files.....	3-7

G

gazetteer data	6-2
GAZETTER subdirectory	19-14
gazetteer table.....	19-14
GAZETTEER_TABLE object	
definition	A-45
GAZETTER.LBL	19-14
GAZETTER.TAB	19-14
GAZETTER.TXT.....	19-14
GAZINFO.TXT.....	19-14
geometry data	6-2
GEOMETRY subdirectory.....	19-14
GEOMINFO.TXT	19-14
GROUP	12-16
in HISTORY object.....	A-60
in QUBE	A-78
PDS use	12-17
group definitions	
URL	H-1
groups	12-16, H-1
BAND_BIN.....	H-3
BAND_SUFFIX.....	H-4
generic	13-3
example	13-3, 13-5
implementation.....	13-4
LINE_SUFFIX.....	H-5
PARAMETERS.....	H-6, H-8
SAMPLE_SUFFIX	H-7
specific.....	13-3
standard groups.....	13-1
using	13-3

H

HEADER object	A-132
definition	A-55
secondary data object	4-1
HISTOGRAM object	A-78
definition	A-57
secondary data object	4-1
HISTORY object	
and QUBE	A-78

definition	A-60
HUFFMAN FIRST DIFFERENCE	
as data compression format	I-4

<i>I</i>

IBM_COMPLEX	3-4
IBM_INTEGER	3-4
IBM_REAL	3-4
IBM_UNSIGNED_INTEGER	3-4
IEEE_COMPLEX	3-4
storage format	C-13
IEEE_REAL	3-2, 3-4
storage format	C-10
IMAGE object	A-74, A-78
and PALETTE	A-74
compression	I-1
definition	A-64
primary data object	4-1
stored with TABLE object	A-138
WINDOW sub-object	
IMAGE_MAP_PROJECTION object	A-78, B-23
definition	B-31
include files	19-14
include pointers	14-1
index files	6-2
INDEX subdirectory	19-10
INDEX_TABLE	19-10
contents	A-69
INDEX_TABLE object	
definition	A-69
INDEX_TYPE	A-69
INDEX.LBL	19-10
INDEX.TAB	19-10
INDEX.TXT	G-2
INDXINFO.TXT	19-10
example	D-8
INSTRUMENT object	
definition	B-37
INSTRUMENT_DESC	B-1
headings	B-46
subheading formats	B-1
INSTRUMENT_HOST object	
definition	B-41
INSTRUMENT_HOST_DESC,	
headings	B-43

INSTRUMENT_HOST_ID.....	B-37
INSTRUMENT_HOST_INFORMATION object	
definition	B-43
INSTRUMENT_HOST_REFERENCE_INFO object	
definition	B-45
INSTRUMENT_INFORMATION object	
definition	B-46
INSTRUMENT_REFERENCE_INFO object	
definition	B-49
INTEGER.....	3-4
integer representations	
least significant byte first (LSB)	3-6
most significant byte first (MSB).....	3-6
signed vs. unsigned.....	3-6
Integrated Software for Imagers and Spectrometers (ISIS)	
QUBE object	A-77
SPECTRAL_QUBE compatibility.....	A-107
INTERCHANGE_FORMAT.....	A-123
INVENTORY object	
definition	B-50
INVENTORY_DATA_SET_INFO object	
definition	B-52
INVENTORY_NODE_MEDIA_INFO object	
definition	B-53
ISIS.....	<i>See</i> Integrated Software for Imagers and Spectrometers (ISIS)
ISO 9660	
Level 1 file names	10-2
Level 2 file names	10-2
ITEM_BITS.....	A-8
ITEM_BYTES.....	3-1, A-16
ITEM_OFFSET.....	A-8, A-16
ITEM_TYPE (<i>obsolete</i>)	3-1
ITEMS	3-1, A-8, A-16

<i>J</i>

Jaz disks	
delivery medium.....	11-1
JP2INFO.TXT	I-8
JPEG 2000	
as data compression format	I-5
example	I-8
file extension	I-7
labeling	I-7

<i>K</i>

KERNEL_TYPE

table of file extensions.....	A-115
-------------------------------	-------

<i>L</i>

label files

contents.....	19-10
LABEL_RECORDS.....	5-10
LABEL_REVISION_NOTE.....	5-10
LABEL subdirectory.....	19-14
labeling methods.....	5-1
attached.....	5-1
case.....	5-3
combined detached.....	5-1
detached.....	5-1
example.....	5-1
line lengths.....	5-1, 5-3
labels.....	5-1
and SFDU labels.....	5-10, 5-17
attached.....	5-1
case.....	5-3
character set.....	5-3
combined detached.....	5-1, 5-4, 5-5
descriptive text pointers.....	5-16
detached.....	5-1
END statement.....	5-17
FILE object	
explicit.....	5-8
implicit.....	5-8
format.....	5-1, 5-3
character set.....	5-3
line length.....	5-1, 5-3
minimal.....	5-6, 5-8
Object Description Language (ODL).....	5-1
object pointers.....	5-11
attached label examples.....	5-12
detached label examples.....	5-13
padding.....	5-3
pointers	
to data objects.....	5-11
to descriptive text.....	5-16
to structure files.....	5-16
standard data objects.....	5-16
standards identifiers.....	5-9

structure	
attached and detached.....	5-4
attached/detached example.....	5-5
combined detached.....	5-4, 5-5
combined detached example.....	5-7, 5-8
minimal.....	5-8
minimal example.....	5-9
structure pointers.....	5-16
LABINFO.TXT.....	19-14
leap seconds.....	7-3
representation of.....	7-3
least significant byte first (LSB) storage format.....	C-6, C-8, C-25
line terminators and delimiters	
vis-a-vis byte counts in objects	
exclusion of line terminators and delimiters in objects.....	A-16
LINE_DISPLAY_DIRECTION.....	A-65
LINE_FIRST_PIXEL.....	B-31
LINE_LAST_PIXEL.....	B-31
LINE_PREFIX_BYTES.....	A-64
LINE_SAMPLES.....	A-64
LINE_SUFFIX	
group definition.....	H-5
LINE_SUFFIX_BYTES.....	A-64
LINES.....	A-64
local data dictionaries.....	5-18
locally defined data elements.....	5-18
control authority.....	5-20
custodians.....	5-20
data dictionary files.....	19-13
examples.....	5-18
identification of.....	5-20
justification for.....	5-18
namespace.....	5-20, 12-5
review and use.....	5-20
scope of use.....	5-18
local time.....	7-4
LOCAL_TIME.....	7-4
logical volumes	
multiple logical volumes (definition).....	19-1
naming.....	19-19
single logical volume (definition).....	19-1
VOLDESC.CAT.....	D-13
LOGICAL_VOLUME_PATH_NAME.....	A-150, A-151
LOGICAL_VOLUMES.....	A-150, A-151
LSB integers.....	<i>See</i> integer representations
LSB_BIT_STRING.....	3-4

storage format.....	C-25
LSB_INTEGER	3-4
storage format.....	C-6
LSB_UNSIGNED_INTEGER	3-4
storage format.....	C-8

M

MAC_COMPLEX.....	3-4
MAC_INTEGER.....	3-4
MAC_REAL	3-1, 3-4
MAC_UNSIGNED_INTEGER	3-5
Management Council	1-1
MAP_PROJECTION_DESC	
headings.....	B-26
map resolution	2-5
MAXIMUM_SAMPLING_PARAMETER.....	A-85
MEDIUM_FORMAT.....	A-147
MEDIUM_TYPE	A-147
midnight.....	7-4
representation of.....	7-4
minimal labels	5-6, 5-8, 5-14, G-2
and compressed data.....	I-8, I-13
MINIMUM_SAMPLING_PARAMETER	A-85
MISSION object.....	B-59, B-60, B-62, B-63
definition	B-54
MISSION_DESC	
headings.....	B-61
MISSION_HOST object	
definition	B-59
MISSION_INFORMATION object	
definition	B-60
MISSION_OBJECTIVES_SUMMARY	
headings.....	B-61
MISSION_REFERENCE_INFORMATION object	
definition	B-62
MISSION_TARGET object	
definition	B-63
most significant byte (MSB) first integers	C-2, C-4, C-23
MSB integers.....	<i>See integer representations</i>
MSB_BIT_STRING	3-5
storage format.....	C-23
MSB_INTEGER	3-5
storage format.....	C-2
MSB_UNSIGNED_INTEGER	3-5
storage format.....	C-4

N

N/A constant	17-1
NAIF	
file naming conventions	E-13
NAIF Toolkit	A-115
directory structure	E-1
using	E-12
NAME	A-41
namespace	<i>See</i> locally defined data elements
NASA processing levels	<i>See</i> data processing level
native date	7-2
native time	7-3
examples	7-3
Not Applicable constant	17-1
NULL constant	17-1

O

OBJECT	12-15
object definitions	1-3
format	5-16
URL	A-1
Object Description Language (ODL)	5-1
character set	12-3
comments	12-13
date and time formats	12-8
date formats	12-9
END statement	12-13
file format	12-13
identifiers	
reserved	12-12
syntax	12-11
implementation	
date and time	12-9
implementation notes	12-2
integer formats	12-6, 12-7
language summary	12-22
lexical elements	12-6
numeric values	12-18
Parameter Value Language (PVL)	12-26
PDS implementation	12-2
date and time	12-9
sets	12-22
symbolic literals	12-21
PVL guidelines	12-27

PVL restrictions on archive files	12-26
real number formats	12-7
revision notes	12-24
version 0	12-25
version 1	12-24
sample data label	12-1
sequences	12-21
sets	12-22
special characters	12-12
specification	12-1
statements	12-12
assignment	12-14
GROUP	12-16
OBJECT	12-15
pointer	12-15
symbol strings	12-11
symbolic literals	12-20
text string values	12-19
text strings	12-11
time formats	12-9
units of measure	12-18
object pointers	5-11
attached label examples	5-12
formats	5-11
syntax	5-13
objects	<i>See catalog objects, data objects</i>
generic	13-1
example	13-1
primitive	13-2
specific	13-1
example	13-1
standard objects	13-1
objects, data	
SERIES	
use of spare fields	A-127
SPECTRUM	
use of spare fields	A-127
observing campaign	
as MISSION	B-54

<i>P</i>

PALETTE object	A-78
definition	A-74
secondary data object	4-1
Parameter Value Language (PVL)	12-2, 12-26

PARAMETERS group	
alias.....	H-6, H-8
definition	H-6, H-8
PC_COMPLEX	3-5
storage format.....	C-17
PC_INTEGER.....	3-5
PC_REAL	3-5
storage format.....	C-14
PC_UNSIGNED_INTEGER.....	3-5
PDS catalog	
on-line search	A-1, H-1
references on-line	B-70
PDS groups.....	<i>See data groups</i>
PDS objects	<i>See catalog objects, data objects</i>
PDS Software Inventory.....	<i>See time standard</i>
PDS time standard.....	B-75
PDS_USER_ID	B-64
PDS_VERSION_ID.....	5-9
PERSONNEL object.....	B-66, B-67
definition	B-64
PERSONNEL_ELECTRONIC_MAIL object	
definition	B-66
PERSONNEL_INFORMATION object	
definition	B-67
physical media formats.....	11-1
physical media	
organization.....	19-1
Planetary Science Data Dictionary (PSDD).....	1-1, 3-1, 5-1, 5-14, 5-16
file labeling.....	19-13
identifying the version in a label	5-10
local data dictionaries.....	5-18
locally defined data elements	5-18, 19-13
PDSDD.FUL	19-12
PDSDD.IDX.....	19-12
pointers	
catalog	19-9
data	14-1
in attached labels	14-1
in detached labels	14-1
description	14-2
include	14-1
rules for resolving.....	14-3
structure pointers	5-16
to descriptive text	5-16
use in labels	14-1
prefix or suffix data	

in QUBE object	A-83
in TABLE object	A-139, A-143
PREVIOUS PIXEL	
as data compression format	I-10
primary data object	4-1
IMAGE object	4-1
QUBE object	4-1
SERIES object	4-1
SPECTRUM object	4-1
SPREADSHEET object	4-1
TABLE object	4-1
primitive data objects	A-1
primitive objects	
ARRAY	A-4
BIT_ELEMENT	A-11
COLLECTION	A-15
ELEMENT	A-36
processing level number	<i>See data processing level</i>
PRODUCT_ID	4-1, A-115

Q

QUBE object	
and HISTORY object	A-78
definition	A-77
primary data object	4-1
SPECTRAL_QUBE	A-90

R

REAL	3-5
RECORD_BYTES	5-10, A-130
record formats	15-1
blocking	15-1
FIXED_LENGTH	15-1
STREAM	15-2
UNDEFINED	15-3
VARIABLE_LENGTH	15-2
VAX counted byte strings	15-2
RECORD_TYPE	5-10, 15-1
reference coordinates	2-1
body-fixed	2-2, 2-3
data elements	2-1
planetocentric	2-2, 2-3
planetographic	2-2, 2-3
ring systems	2-3

ring systems, data elements	2-3
reference frames	
B1950	2-1
standard inertial (J2000)	2-1
REFERENCE object	B-4, B-5, B-12, B-30, B-45, B-49, B-62, B-83
definition	B-68
reference surface models	2-5
digital image model (DIM)	2-5
digital terrain model (DTM)	2-5
references	
citations	B-68
contents	B-70
on-line access to PDS cataloged	B-70
what to reference	B-68
REFERENCE_KEY_ID	B-5, B-12, B-28, B-30, B-45, B-62, B-83
relative time	7-4
REPETITIONS	A-21
required files	
examples	D-1
REQUIRED_STORAGE_BYTES	I-12
ROOT directory files	19-8
rotation direction	
of Solar System bodies	2-2
ROTATIONAL_ELEMENT_DESC	
headings	B-26
ROW_BYTES	A-130
ROW_PREFIX_BYTES	A-64, A-86
use	A-138
ROW_SUFFIX_BYTES	A-64
use	A-138
RUN LENGTH	
as data compression format	I-11

S

safing data	G-1
criteria	G-1
procedures	G-1
standards	G-1
SAMPLE	A-74
SAMPLE_BITS	A-64
SAMPLE_DISPLAY_DIRECTION	A-65
SAMPLE_FIRST_PIXEL	B-31
SAMPLE_LAST_PIXEL	B-31
SAMPLE_SUFFIX	
group definition	H-7

SAMPLE_TYPE	A-64
standard values	3-1
sampling parameter data	
in SERIES object	A-89
SAMPLING_PARAMETER_INTERVAL	A-85
SAMPLING_PARAMETER_RESOLUTION	18-1
SAMPLING_PARAMETER_UNIT	18-1
SAVED data	G-1
SCALING_FACTOR	A-67
sclk	<i>See spacecraft clock count (sclk)</i>
secondary data object	4-1
HEADER object	4-1
HISTOGRAM object	4-1
PALETTE object	4-1
SEQUENCE_NUMBER	A-31, A-147
sequential media	A-31
SERIES object	A-16, A-130
definition	A-85
primary data object	4-1
TIME_SERIES	A-85
use of spare fields	A-143
SIDEPLANE	H-7
SOFTINFO.TXT	19-15, A-144
contents	D-9
example	D-9
software	
packaging for delivery	11-2
PDS inventory of tools and libraries	B-75
SOFTWARE object	B-77, B-78, B-79
definition	B-75
software directory structure	
NAIF	E-1
software files	6-2
SOFTWARE subdirectory	19-15
SOFTWARE_INFORMATION object	
definition	B-77
SOFTWARE_ONLINE object	
definition	B-78
SOFTWARE_PURPOSE object	
definition	B-79
SOURCE_PRODUCT_ID	A-115
spacecraft clock count (sclk)	7-3
syntax	7-4
SPACECRAFT_ID	B-37
SPACECRAFT_CLOCK_START_COUNT	7-3
SPACECRAFT_CLOCK_STOP_COUNT	7-3

SPARE bytes	A-127, A-139
spare fields	
use in TABLE, SPECTRUM and SERIES objects	A-143
SPECTRAL_CUBE object	
BACKPLANE	H-4
BOTTOMPLANE	H-5
compatibility with ISIS	A-107
definition	A-90
labeling	A-97
SIDEPLANE	H-7
SPECTRUM object	A-16, A-130
definition	A-112
primary data object	4-1
use of spare fields	A-143
SPICE kernels	
labeling	A-115
SPICE system	
kernel file extensions	A-115
SPICE_KERNEL object	
definition	A-115
SPREADSHEET object	
CSV file format	A-119
definition	A-118
example	A-120
field delimiters	A-119
formats	A-119
primary data object	4-1
SRC directory	
in NAIF distribution	E-4
Standard Formatted Data Unit (SFDU)	5-10, 5-17
AMMOS usage	16-5
definition	16-1
examples	
FIXED_LENGTH file	16-7
STREAM file	16-7
UNDEFINED file	16-7
VARIABLE_LENGTH file	16-8
exceptions	16-8
I class	16-2, 16-5
K class	16-5
usage in PDS products	16-1
versions	16-1
Z class	16-2, 16-5
standards identifier data elements	5-9
START_BYTE	A-4, A-15, A-36, A-124
START_TIME	7-3, A-85

STOP_TIME	7-3, A-85
storage formats	
binary integers	3-5
STREAM	15-2
STRUCTURE pointer	A-128
STUFFIT utility	11-3
SUN_COMPLEX	3-5
SUN_INTEGER	3-5
SUN_REAL	3-5
SUN_UNSIGNED_INTEGER	3-5
Syquest disks	
delivery medium	11-1
Systeme Internationale d'Unites (SI)	18-1

<i>T</i>

TABLE object	A-16, A-64, A-78
and CONTAINER	A-139
ASCII field delimiters	A-142
ASCII tables	A-124
binary tables	A-127
definition	A-123
INDEX_TABLE	A-69
more than one in a single file	A-136
PALETTE	A-74
primary data object	4-1
SERIES object	A-85
SPARE bytes	A-127, A-139
SPECTRUM object	A-112
stored with IMAGE object	A-138
STRUCTURE pointer	A-128
use of spare fields	A-143
variations	A-130
tables	
multiple tables in single file	A-136
tape volumes	8-4
tar utility	11-4
target	
acronyms	6-4
named features	19-14
TARGET object	B-82, B-83
definition	B-80
TARGET_INFORMATION object	
definition	B-82
TARGET_NAME	
acronym list	6-4

TARGET_REFERENCE_INFORMATION object.....	B-80
definition	B-83
TEXT	9-2
text	
plain text formatting	A-144
TEXT object	9-2
definition	A-144
TIME	3-5
time format	
native	7-3
precision	7-2
syntax.....	7-1
time standard	7-3
time tags	
format	2-1
two's complement	3-4, C-2, C-6

<i>U</i>

UNCOMPRESSED_FILE.....	I-8, I-13
UNCOMPRESSED_FILE_NAME.....	I-12
UNDEFINED	15-3
units of measure.....	18-1
default units	18-1
SI prefixes.....	18-2
SI units.....	18-1
supplementary units.....	18-3
symbols.....	18-1
Universal Time Coordinated (UTC).....	<i>See time format</i>
date/time formats, use in	
UTC, use of.....	7-2
in labels and catalog files	5-18
UNK constant	17-1
Unknown constant.....	17-1
UNSIGNED_INTEGER	3-5

<i>V</i>

VARIABLE_LENGTH.....	15-2
VAX_BIT_STRING	3-5
VAX_COMPLEX	3-5
storage format.....	C-22
VAX_DOUBLE	3-5
VAX_INTEGER	3-5
VAX_REAL.....	3-5
storage format.....	C-18

VAX_UNSIGNED_INTEGER.....	3-5
VAXG_COMPLEX.....	3-5
storage format.....	C-22
VAXG_REAL.....	3-5
storage format.....	C-18
version number.....	6-8
VICAR headers.....	A-55
VOLDESC.CAT.....	19-8, 19-18, A-12, A-147
VOLDESC.SFD.....	19-8
VOLINFO.TXT.....	19-12, A-144
VOLUME.....	8-4
volume.....	19-8
ancillary volumes.....	19-2
definition.....	19-1
IDs.....	19-17
exceptions.....	19-19
logical volume naming.....	19-19
names.....	19-17
volume index.....	19-11
VOLUME object.....	A-12, A-27, A-29, A-31, A-41, A-150
definition.....	A-146
volume organization and naming.....	19-1
volume set.....	
definition.....	19-1
IDs.....	19-18
names.....	19-18
organization.....	
many data sets, many volumes.....	19-2, 19-7
many data sets, one physical volume.....	19-6
many data sets, one volume.....	19-1
one data set, many volumes.....	19-1, 19-4
one data set, one volume.....	19-1, 19-3
recommendations.....	19-7
types.....	19-1
VOLUME_FORMAT.....	A-147
VOLUME_ID.....	19-18, G-1
VOLUME_SET_ID.....	19-18
VOLUME_VERSION_ID.....	19-18
volumes, logical.....	19-10

W

Waivers (compliance).....	1-1
WINDOW object.....	
WORM disk.....	
delivery medium.....	11-1

Z

ZIP

as data compression format	I-12
compression ratios compared to JPEG 2000	I-7
example	I-14
labeling	I-12
Zip disks	
delivery medium	11-1
ZIPINFO.TXT	I-13, I-15