

# Standards Change Request

Update `LINE_` and `SAMPLE_DISPLAY_DIRECTION`

SCR3-1130.v1

## Provenance:

Date: 2008-05-14

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## Problem:

The two keywords `LINE_DISPLAY_DIRECTION` and `SAMPLE_DISPLAY_DIRECTION` provide the preferred orientation for data (primarily image data) to be displayed on a display device. While in theory\* each keyword has a default value (“DOWN” and “RIGHT”, respectively), they each have the full set of “DOWN”, “LEFT”, “RIGHT”, and “UP” for standard values. Thus, it is possible to have mutually contradictory (non-orthogonal) values for these two keywords. This obviously presents a problem for display software.

Furthermore, if only one of these keywords is present in a label and it has a non-default value, any display software that uses the default value for the missing keyword may inadvertently introduce a conflict.

\*While each keyword mentions a default value in the description field, neither actually has the `KEYWORD_DEFAULT_VALUE` attribute populated. Thus, even these default values are inaccessible to display software.

## Current Urgency:

There is no particular urgency to fixing this problem.

## Proposed Solution:

The Planetary Science Data Dictionary (PSDD) currently has no mechanism for enforcing dependencies between keywords. This SCR does not propose to fix this problem, which will have to be resolved under PDS4. Rather, this SCR proposes updates to the `DESCRIPTION` attributes of these two keywords to make it clear that when one of these keywords is used in a product label, the other keyword must also be present and populated with an orthogonal value. For the moment, these restrictions will have to be enforced manually, with the option of hard coding them into display software.

**Impact Assessment:**

The impact from this SCR should be minimal, since it is simply encoding in text our current practices.

PDS Standards Reference – no change

Archive Preparation Guide – no change

Proposer's Archive Guide – no change

Planetary Science Data Dictionary – update the element definition objects for the two keywords `LINE_DISPLAY_DIRECTION` and `SAMPLE_DISPLAY_DIRECTION`

PDS tools – any updates to the tools are up to the discretion of the PDS EN Development Team

**Additional Information:**

None.

**Requested Changes:**

The attached two element definition objects provide the necessary updates to the PSDD. All changes are highlighted in red.

PDS\_VERSION\_ID = PDS3  
 LABEL\_REVISION\_NOTE = "2008-05-14 PDS EN/EDR Updated  
 description and added default value."

OBJECT = ELEMENT\_DEFINITION  
 ELEMENT\_NAME = "line\_display\_direction"  
 BL\_NAME = "linedspdir"  
 DESCRIPTION = "

The line\_display\_direction element is the preferred orientation of lines within an image for viewing on a display device. The default value is down, meaning lines are viewed top to bottom on the display.

Note that if this keyword is present in a label, the SAMPLE\_DISPLAY\_DIRECTION keyword must also be present and must contain a value orthogonal to the value selected for this keyword.

Note: The image rotation elements such as TWIST\_ANGLE, CELESTIAL\_NORTH\_CLOCK\_ANGLE, and BODY\_POLE\_CLOCK\_ANGLE are all defined under the assumption that the image is displayed in its preferred orientation."

GENERAL\_DATA\_TYPE = "IDENTIFIER"  
 MAXIMUM = "N/A"  
 MINIMUM = "N/A"  
 MAXIMUM\_LENGTH = "6"  
 MINIMUM\_LENGTH = "N/A"  
 STANDARD\_VALUE\_TYPE = "STATIC"  
 STANDARD\_VALUE\_SET\_DESC = "

The preferred orientation of lines within an image for viewing on a display device. The default value is down, meaning lines are viewed top to bottom on the display."

KEYWORD\_DEFAULT\_VALUE = "DOWN"  
 UNIT\_ID = "none"  
 SOURCE\_NAME = "PDS CN/T. Brown"  
 FORMATION\_RULE\_DESC = ""  
 OBJECT = ELEMENT\_STANDARD\_VALUE  
 COLUMN\_VALUE = "DOWN"  
 COLUMN\_VALUE\_TYPE = "A"  
 COLUMN\_VALUE\_NODE\_ID = "U"  
 OUTPUT\_FLAG = "Y"  
 END\_OBJECT = ELEMENT\_STANDARD\_VALUE

OBJECT = ELEMENT\_STANDARD\_VALUE  
 COLUMN\_VALUE = "LEFT"  
 COLUMN\_VALUE\_TYPE = "A"  
 COLUMN\_VALUE\_NODE\_ID = "U"  
 OUTPUT\_FLAG = "Y"  
 END\_OBJECT = ELEMENT\_STANDARD\_VALUE

OBJECT = ELEMENT\_STANDARD\_VALUE  
 COLUMN\_VALUE = "RIGHT"  
 COLUMN\_VALUE\_TYPE = "A"  
 COLUMN\_VALUE\_NODE\_ID = "U"  
 OUTPUT\_FLAG = "Y"  
 END\_OBJECT = ELEMENT\_STANDARD\_VALUE

OBJECT = ELEMENT\_STANDARD\_VALUE

```
COLUMN_VALUE           = "UP"
COLUMN_VALUE_TYPE      = "A"
COLUMN_VALUE_NODE_ID   = "U"
OUTPUT_FLAG            = "Y"
END_OBJECT              = ELEMENT_STANDARD_VALUE

SYSTEM_CLASSIFICATION_ID = "COMMON"
GENERAL_CLASSIFICATION_TYPE = "IMAGING"
CHANGE_DATE             = "2008-05-14"
STATUS_TYPE             = "APPROVED"
STANDARD_VALUE_OUTPUT_FLAG = "Y"
TEXT_FLAG               = "N"
TERSE_NAME              = "linedspdir"
SQL_FORMAT               = "CHAR(6)"
BL_SQL_FORMAT           = "char(6)"
DISPLAY_FORMAT          = "JUSTLEFT"
AVAILABLE_VALUE_TYPE    = "L"
END_OBJECT              = ELEMENT_DEFINITION
END
```

PDS\_VERSION\_ID = PDS3  
 LABEL\_REVISION\_NOTE = "2008-05-14 PDS EN/EDR Updated  
 description and added default value."

OBJECT = ELEMENT\_DEFINITION  
 ELEMENT\_NAME = "sample\_display\_direction"  
 BL\_NAME = "sampsdir"  
 DESCRIPTION = "

The SAMPLE\_DISPLAY\_DIRECTION element is the preferred orientation of samples within a line for viewing on a display device. The default is right, meaning samples are viewed from left to right on the display. Note that if this keyword is present in a label, the LINE\_DISPLAY\_DIRECTION keyword must also be present and must contain a value orthogonal to the value selected for this keyword.

Note: The image rotation elements such as TWIST\_ANGLE, CELESTIAL\_NORTH\_CLOCK\_ANGLE, and BODY\_POLE\_CLOCK\_ANGLE are all defined under the assumption that the image is displayed in its preferred orientation."

GENERAL\_DATA\_TYPE = "IDENTIFIER"  
 MAXIMUM = "N/A"  
 MINIMUM = "N/A"  
 MAXIMUM\_LENGTH = "6"  
 MINIMUM\_LENGTH = "N/A"  
 STANDARD\_VALUE\_TYPE = "STATIC"  
 STANDARD\_VALUE\_SET\_DESC = "

The preferred orientation of samples within a line for viewing on a display device. The default is right, meaning samples are viewed from left to right on the display."

KEYWORD\_DEFAULT\_VALUE = "RIGHT"  
 UNIT\_ID = "none"  
 SOURCE\_NAME = "PDS CN/T. Brown"  
 FORMATION\_RULE\_DESC = "  
 OBJECT = ELEMENT\_STANDARD\_VALUE  
 COLUMN\_VALUE = "DOWN"  
 COLUMN\_VALUE\_TYPE = "A"  
 COLUMN\_VALUE\_NODE\_ID = "U"  
 OUTPUT\_FLAG = "Y"  
 END\_OBJECT = ELEMENT\_STANDARD\_VALUE

OBJECT = ELEMENT\_STANDARD\_VALUE  
 COLUMN\_VALUE = "LEFT"  
 COLUMN\_VALUE\_TYPE = "A"  
 COLUMN\_VALUE\_NODE\_ID = "U"  
 OUTPUT\_FLAG = "Y"  
 END\_OBJECT = ELEMENT\_STANDARD\_VALUE

OBJECT = ELEMENT\_STANDARD\_VALUE  
 COLUMN\_VALUE = "RIGHT"  
 COLUMN\_VALUE\_TYPE = "A"  
 COLUMN\_VALUE\_NODE\_ID = "U"  
 OUTPUT\_FLAG = "Y"  
 END\_OBJECT = ELEMENT\_STANDARD\_VALUE

OBJECT = ELEMENT\_STANDARD\_VALUE

```
COLUMN_VALUE           = "UP"
COLUMN_VALUE_TYPE      = "A"
COLUMN_VALUE_NODE_ID   = "U"
OUTPUT_FLAG            = "Y"
END_OBJECT              = ELEMENT_STANDARD_VALUE

SYSTEM_CLASSIFICATION_ID = "COMMON"
GENERAL_CLASSIFICATION_TYPE = "IMAGING"
CHANGE_DATE             = "2008-05-14"
STATUS_TYPE             = "APPROVED"
STANDARD_VALUE_OUTPUT_FLAG = "Y"
TEXT_FLAG               = "N"
TERSE_NAME              = "sampsdir"
SQL_FORMAT               = "CHAR(6)"
BL_SQL_FORMAT           = "char(6)"
DISPLAY_FORMAT           = "JUSTLEFT"
AVAILABLE_VALUE_TYPE    = "L"
END_OBJECT              = ELEMENT_DEFINITION
END
```