MEDIN

marine environmental data & information network

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Title	**MEDIN data guideline for recording and archiving of digital photographs**
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Summary	This guideline defines good practice for archiving of digital photographs.
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Change history		
Version	**Date**	**Change**
1.0	17/09/09	First draft of document
2.0	30/11/09	Revised and published following comments from DASSH, CCW and BGS
2.1.	16/12/09	Small amendment to allow original coordinates in northing/easting rather than lat long following BGS advice.
3.0	06/05/10	Small additions following feedback and put into new structure
3.1	15/07/10	Minor edits following changes to common tables and specification of .csv format for transfer of data
3.2	24/08/11	Edits to introduction and following comments from reviews

1.1. Scope

This guideline covers the archiving of digital photographs regardless of the reason for which they have been taken, or from what platform they have been taken (e.g. ship, beach, underwater vehicle).

This Data Guideline does not currently consider non-digital images. If images have been taken as stills from video footage then please refer to the MEDIN Data Guideline for transfer video survey data.

To submit this data to a Data Archive Centre the raw image files should be provided as .tiff files, and the remaining data must be saved and transferred in the .csv file format.

1.2. Background to Data Guidelines

The Marine Environmental Data and Information Network (MEDIN) is working towards creating a framework of consistent standards covering the major types of data collection undertaken in the marine environment around the UK. The principle benefits of this suite of standards are:

- Allows contracting organisation to easily specify a format that data should be returned in that can be readily used and includes all relevant attributes
- Provides a consistent format for contractors to work to (rather than a different format for each contract)
- Data can be readily exported to Data Archiving Centres and other users
- Instills good practice amongst users

Each standard defines the data and information that must be stored with a particular data type to ensure it can be readily used and reused. As this type of information is specific for different data types, guidelines are developed for each type. This document describes one such format. Other standards can be accessed through www.oceannet.org.

1.3 Using this data guideline

This guideline is split into sections that refer to information that can be collated at different levels as shown below:

Project - a collection of surveys that have been completed for a common purpose
Survey - a uniquely identifiable programme of data collection such as a research cruise, moored instrument deployment or survey event
Fixed Station – a target location used as the basis for replicate sample events and for repeat monitoring surveys
Sample Event – a sample specific event of data collection
Sampling Methodology (Data Production Tools) – Details of any method or instruments used to collect the data
Sample Data – the data

Information that is likely to be the same for all samples (e.g. ship used, datums used) is collated in the 'Survey Information' table. Information that is common to each station and sample is collected in the 'Sample Event' table respectively and the raw data is collected in the 'Sample Data' table. The project, survey and fixed station tables in this guideline are common to all MEDIN guidelines and may be used in part to derive a MEDIN discovery metadata record. Where the survey is part of a ship cruise then the cruise report may hold the required information.

The tables below outline the data fields, a description and where available a term list and/or format given at the end of each field which should be used to store the data. Each field is either mandatory, conditional or optional as indicated by M, C, or O respectively. Conditional means that the field must be completed if a value is known. In

the absence of an existing spreadsheet or database to hold the below information, it is recommended that the template available to download from the [MEDIN website](#) is used. Instructions are provided in the template.

In the event that historical data which does not have all the necessary mandatory fields is being configured into this guideline, then it is permissible to use the following entry terms:

Term	Description
unknown	The correct value is not known to and not computable by the creator of this information. However a correct value probably exists.
inapplicable	There is no appropriate value. To be used in cases where metadata elements cannot be set null due to schema constraints.

In some cases it may be necessary to extend this guideline for a specific purpose such as a specific exchange of data between applications or to fulfil the needs of a specific project. This is permissible however we advise that the broad structure and format is maintained and that where possible controlled vocabularies are used. As any extension to the structure and format may be useful for other organisations please inform MEDIN of further agreements.

1.4. Further information on the SeaDataNet, ICES and EPSG term lists

The available catalogues of term lists used for this MEDIN data guideline are provided primarily by SeaDataNet, the International Council for the Sea (ICES) and EPSG. If a term is not available in a recommended list then please contact MEDIN to arrange for the term to be added.

The SeaDataNet list may be viewed at http://seadatanet.maris2.nl/v_bodc_vocab/welcome.aspx . By clicking on the list any term may be searched for by using the drop-down menus or all terms viewed by clicking search. The terms may be viewed in groups of 15 or may be downloaded into an excel file.

The ICES term lists are available at http://www.ices.dk/datacentre/reco/
Select which list you require from the 'Reference Code List' drop-down box. The results are shown for the selected list and may be downloaded into MS Excel by selecting the inverted green arrow.

There are a number of ways of describing a spatial dataset. Common horizontal coordinate reference systems include WGS84 and British National Grid. Common vertical coordinate reference systems include Highest Astronomical Tide and Ordnance Datum Newlyn (ODN). It is important that which coordinate reference system used for a

data set is recorded so conversions can be carried out between reference systems. The EPSG database of coordinate reference systems (http://www.epsg.org/Geodetic.html) provides a dictionary of reference systems. In brief, to find a code click on the OGP Online Registry and if you know the title (eg WGS84) then type this in the 'Name' field and click search. The name, code and further information is displayed. If you are looking for a specific type of reference system such as 'vertical' then click in the 'Type' box, hover over coordinate reference system and click on vertical and then click the search button and all recorded vertical reference systems are shown. If you want to search for a reference system in a particular part of the world (e.g. Northern Ireland Grid) the you may do so by submitting a term to the 'Area' box or fill out the lat and longs then click search. The website also provides a database of the reference systems and web services to access the information.

1.5. Relationship between MEDIN data guidelines and MEDIN discovery metadata

The MEDIN discovery metadata format is aimed at allowing the non-informed user to discover data sets and it is likely that one 'discovery' data set record will contain a large range of data types that are in turn covered by a range of data guidelines. To enable individuals to reuse data of a specific nature (e.g. benthic invertebrate data) then related information must be collected (e.g. data owner, reference systems used etc). Some of the information which is collected at the Survey Level in a data guideline is also required to create a discovery metadata record. Who creates the MEDIN discovery record for a dataset is case specific and dependant on the organisation, and the relationship it has with a Data Archive Centre. However it is intended that the information collected at the 'Survey Information' level is reused for creating a MEDIN discovery metadata record. Further details are available on the MEDIN website which demonstrate clearly which fields in the MEDIN Data Guidelines can be reused for which elements in the MEDIN Discovery Metadata Standard.

1.6. Updates and Feedback

If you have any comments or feedback on this guidelines please contact enquiries@oceannet.org . Standards develop over time and it is likely that this standard will change in the future. We advise that you return to the oceannet website to identify new versions and that you sign up to the MEDIN Standards e-mail listing (e-mail mecha@bodc.ac.uk) and Marine Data News to be kept informed of developments.

2.1. Project Information.

If your collection of data forms part of a wider project or time series then the below details must be recorded. If the work is a small survey then the details below may not be required. A project is a collection of surveys that have been completed for a common purpose. For example: an environmental impact assessment composed of a number of separate surveys; scientific research composed of a number of different research cruises; a legislative monitoring programme which is conducted each year over several years. A project is usually funded by the same organisation(s) for its lifetime.

M, C, O indicate which fields are mandatory, conditional or optional.

Heading	M, C, O	Description	Recommended Term List or Format
Project name	M	The nationally/internationally accepted version of the project name.	Free text; e.g. North Hoyle Windfarm EIA Rapid Climate Change; Dogger Bank pSAC Monitoring Programme; EA Bathing Water Monitoring Programme 1989-2010
Project website	C	If a project website exists give the address. This should be the web address of the environmental surveys and not in the case of impact assessments the engineering development.	e.g. http://www.noc.soton.ac.uk/rapid/rapid.php
Project start date	M	The date that the project started which is from when the funding was in place to start. Use the 1st of the month if the exact date is not known.	Date; yyyy-mm-dd; e.g. 2001-01-24; 1973-01-01
Project end date	C	The date that the project finished or is due to finish. Use the 1st of the month if the exact date is not known.	Date; yyyy-mm-dd; e.g. 2007-01-24; 1976-01-01
Project code	M	Provide a code to uniquely identify the project and allow links to be made between the tables. To ensure uniqueness, it is recommended that the website of	Free text; e.g. http://www.dassh.ac.uk/ME102; http://www.bodc.ac.uk/RCC;

| | | organisation responsible for the work is used followed by a unique code designated by the responsible organisation which should reflect the code used by the funding organisation where possible. | http://www.environment-agency.gov.uk/78949 |

2.2. Survey Information (Data Activity).

The survey information is a uniquely identifiable programme of data collection such as a research cruise, moored instrument deployment or survey event. This information is likely to be the same for all sample events (e.g. stations) and subsamples in a given data set such as a cruise. Note that in the event that these are not common to all sample events then they should be specified for each one. These fields are common throughout all other MEDIN data guidelines and only need to be given once and referenced if your data set is composed of many data types and therefore conforms to a number of MEDIN Data Guidelines. Where data collection is undertaken on research vessels the data below can often be sourced in the Cruise Summary Report.

M, C, O indicate which fields are M - mandatory (must be filled in), C - conditional (must be filled in if exists in data resource, e.g. if a depth coordinate system was used the depth and), or O - optional respectively.

Heading	M, C, O	Description	Recommended Term List or Format
Survey name	M	Title of the survey	Free text; e.g. 2004 CCW Menai Strait benthic monitoring survey
Survey abstract	M	Brief description of the purpose of the survey and other types of measurements that were made for the survey.	Free Text e.g. Survey was the first in a series of 3 in 2010 whose specific aim beyond that stated in the project was to identify sites suitable for further monitoring. As such it geophysical techniques were using in combination with grabs and cores to assess seabed type.
Survey code	M	A unique code for the survey to allow links to be built between this and sample event data, (the cruise identifier code could be used). To ensure uniqueness, it is recommended that the website of organisation responsible for the work is used followed by a unique	Free text; e.g. http://www.noc.ac.uk/JCR3022; http://www.bennett.ac.uk/RIBJULY_03_01)

		code designated by the responsible organisation.	
Originator	M	The organization who has created the data set. If the organization is not in EDMO please contact enquiries@oceannet.org to add it. If a person who is not associated with any organization generated the data then please provide the name in the sample event table.	Term List; European Directory of Marine Organisations e.g. 28: Centre for Environment, Fisheries and Aquaculture Science, Lowestoft Laboratory 2588: ABP Marine Environmental Services Ltd
Owner	M	Organization that owns the data set. If the organization is not in EDMO please contact enquiries@oceannet.org to add it.	Term List; European Directory of Marine Organisations e.g. 78: Department of Environment Fisheries and Rural Affairs 53: BP Exploration and Production
Survey start date	M	The date and time that the survey started.	Date or DateTime; yyyy-mm-dd or yyyy-mm-dd hh:mm:ss e.g. 2009-01-24 12:33:00
Survey end date	C	The date and time that the survey ended. May be left null if the survey is ongoing.	Date or DateTime; yyyy-mm-dd or yyyy-mm-dd hh:mm:ss e.g. 2009-02-16 16:33:00
Spatial coordinate reference system*	M	Describes the system of spatial referencing. I.e. the datum used to provide details of latitude and longitude. (See section 1.4 on accessing term lists).	Term List; http://www.epsg.org/Geodetic.html e.g. **WGS84** code: EPSG::7030; **British National Grid** (projected) code: EPSG::27700; **ETRS89 / UTM zone 28N** code: EPSG::25828; **ETRS89 / UTM zone 29N** code: EPSG::25829; **ED50** code: EPSG::4230;

			UTM31N code: EPSG::23031
Position fix method and source*	M	Give the method and source of the position fix instrument.	Free Text; e.g. Differential GPS taken from the ships navigation equipment. 4 point satellite fix achieved
Horizontal positional accuracy*	M	How accurate the spatial positions are likely to be.	Number; units = meters e.g. 15
Depth coordinate reference system*	C	Give the reference to which the depth has been calculated e.g. Ordnance Datum Newlyn; Highest Astronomical Tide. Mandatory if seabed depths are given for each sample. See section 1.4 on accessing term lists.	Term List http://www.epsg.org/Geodetic.html e.g. **Ordnance Datum Newlyn** code: EPSG::5701 **Malin Head height** code: EPSG::5731
Vertical positional accuracy*	C	How accurate the vertical resolution is. Must be provided if seabed depths are given.	Number; units = meters e.g. 0.5
Platform type*	O	The platform type (e.g. Research Vessel) from which the sampling device was deployed.	Term list; SeadataNet Platform Classes (L061) e.g. 31: Research Vessel; 13: beach/intertidal zone structure; 48: mooring; 71: human
Ship name*	M	The name of the ship from which the sampling device was deployed. If your ship is not on the list please contact accessions@ices.dk	Term list SHIPC at http://www.ices.dk/datacentre/reco/ e.g. 74LG: Lough Foyle AA30: Unspecified Ship 74E9: Cefas Endeavour AA36: Unspecified Fishing Vessel AA33: Unspecified Self-Propelled Small Boat

| Cruise report reference* | O | Cruise report or boat log reference if applicable. | Free text; in reference format.
e.g.
Litt, E.J. 2009. PHiXT 4. 30 July to 2 August 2009 *RV Prince Madog* POL Coastal Observatory Liverpool Bay Cruise Report. POL Coastal Observatory, Liverpool. |
| Project code | C | If the survey froms part of a wider project then state the code of the project given in the project table to allow links to be made between the tables. | Free text;
e.g.
RCC |

*Fields marked are unlikely to be required for the collection of leisure and recreation data

2.3. Fixed (Target) Station Information.

You should only use this table if you are returning to the same fixed point/transect/area on several occasions to form a time series – ie. there is a target location for your sample event. When returning to a target station, the actual sample event may not be in exactly the same location each time due to ship movements or sampling strategy, however it is useful to record both the position which is intended to be sampled (fixed) and the actual sampling position (sample). Therefore, the information below must be included if a fixed point, transect or area is used as the basis for replicate sample events and for repeat monitoring surveys. Actual coordinates should be placed in the sample event table. A fixed station may be a point, transect, or an area. If the fixed station is a transect or an area then the secondary latitude and longitude fields must be completed.

Heading	M, C, O	Description	Recommended Term List or Format
Fixed station identifier	M	A unique identifier for the station.	Free text. e.g. Stanton_Bank_station_4 (point) EastChan_Innerdover_se04 Liverpool_Dublin_ferry_route1 (transect) Lagan_Estuary (area)
Primary latitude (decimal degrees)	M	The primary latitude of the fixed station given in decimal degrees. For a point this field is set to the point latitude; for a transect it is set to the latitude of the start of the transect; for an area it is set to the southern edge of the box. Units are positive North.	Decimal degrees; minimum of four and a maximum of five decimal places. e.g. 54.5837
Primary longitude (decimal degrees)	M	The primary longitude of the sample given in decimal degrees. For a point this field is set to the point longitude; for a transect it is set to the longitude of the start of the transect; for an area it is set to the western edge of the box. Units are positive east (West is negative, East is positive).	Decimal degrees; minimum of four and a maximum of five decimal places. e.g. -5.5837
Secondary	C	The secondary latitude of the fixed station given in	Decimal degrees; minimum of two and a

latitude (decimal degrees)		decimal degrees. For a point this field is not required; for a transect it is set to the latitude of the end of the transect; for an area it is set to the northern edge of the box. Units are positive North.	maximum of five decimal places. e.g. 55.7393
Secondary longitude (decimal degrees)	C	The secondary longitude of the sample given in decimal degrees. For a point this field is not required; for a transect it is set to the longitude of the end of the transect; for an area it is set to the eastern edge of the box. Units are positive east (West is negative, East is positive).	Decimal degrees; minimum of two and a maximum of five decimal places. e.g. -3.7394
Original co ordinates and coordinate transformation technique	C	If coordinates were transformed from a different reference system into decimal degrees then the original coordinate and original coordinate reference system should be given, the method used to transform stated and any differences in the relative (significant figures) of the original transformation explained.	Free text; e.g. SX498476, Coordinates were transformed from British National Grid using in house software 'BODC_transform'. The number of significant figures was reduced to 4 decimal degrees in line with the accuracy of the coordinate and transformation technique.
Position fix method and source	M	Give the method and source of the position fix instrument.	Free Text; e.g. Differential GPS taken from the ships navigation equipment. 4 point satellite fix achieved)
Description of fixed station spatial form	M	Describe if the fixed station is a point, transect (curve) or an area (surface).	Term list; SeadataNet Geospatial Feature Type (L021): 004: Point 003: Curve 005: Surface

2.4. Image Context Information (Sample Event). This table holds information on the location and time of image capture.

Heading	M, C, O	Description	Recommended Term List or Format
Survey code	M	The survey code must be stated to allow links to be built between this table and the survey table (the cruise identifier code could be used).	Free text; e.g. http://www.noc.ac.uk/JCR3022; http://www.bennett.ac.uk/RIBJULY_03_01)
Image (sample event) identifier	M	A unique identifier for the image under consideration. The Exif file will give a unique identifier to that camera but possibly not unique for other cameras. Therefore, a prefix should be used to ensure that it is globally unique. MEDIN recommend that a combination of the organisation name and camera ID is used. Alternatively a combination of the project, survey codes may be used	e.g. BODC_nicon590c_00058743 e.g. CCW_canon45i_PS74926 e.g. RCC_http://www.noc.ac.uk/JCR3022_002
Fixed station identifier	C	If you are returning to the same fixed point/transect/area on several occasions to form a time series – ie. there is a target location for your sample event, then put the identifier specified in the fixed station table in here.	Free text; e.g. Stanton Bank site 4 PS74926
Sample Reference	C	If the image has been used as a photographic record of for example a biological or geological sample then an identifier for that sample should be given here to allow the image and the sample to be related.	Free Text e.g. CCW_Llyn_may10_Stn46a
X coordinate position of sample given in original recorded format	M	The X coordinate (latitude or northing) of the image given in whichever format was used to record at the time of sampling. Units are positive north.	Minimum of 10 figures for NGR e.g. 50°47'24'' e.g. 233978.057
Y coordinate	M	The Y coordinate (longitude or easting) of the image	Minimum of 10 figures for NGR

position of sample given in original recorded format		given in whichever format was used to record at the time of sampling. Units are positive east.	e.g. -4°21'53'' e.g. 331445.535
Latitude of sample (decimal degrees)	M	The latitude of the image given in decimal degrees. Units are positive north. 5 decimal places is recommended.	Decimal degrees; minimum of four and a maximum of seven decimal places. e.g. 54.5837
Longitude of sample (decimal degrees)	M	The longitude of the image given in decimal degrees. Units are positive east. 5 decimal places is recommended.	Decimal degrees; minimum of four and a maximum of seven decimal places. e.g. -3.4764
Position fix method and source	M	Give the method and source of the position fix instrument.	Free Text; e.g. Differential GPS taken from the ships navigation equipment. 4 point satellite fix achieved
Date and time	M	The date and time of image collection.	yyyy-mm-dd or yyyy-mm-dd hh:mm:ss (e.g. 2009-01-24 13:33:00)
Depth	M	The depth or height that the image was taken	Number; units = meters (e.g. -15). Below water surface is negative.
Bearing	O	The approximate compass direction in which the image has been taken.	Free text. e.g. NorthEast
Data originator	O	The person who took or provides the images	Free text. e.g. Joe Bloggs

2.5. Image Collection Methods and Properties (Data Production Tools). The image metadata fields are intended to hold information regarding the device used to record the image and the properties of the image itself. Many digital cameras record these metadata automatically at the time of image capture in a metadata format known as the Exchangeable image file (Exif) standard. If you wish to view these metadata right click on an image in windows explorer, choose the summary tab and click advanced. There is also a FireFox plug in that allows you to view these metadata easily. The Exif standard also incorporates fields for a Global Positioning System feed to provide a geo-reference to the image. The TIFF file format holds metadata in the Exif standard. The fields below give the metadata that should be stored with every image and the mandatory or optional conditions using the Exif standard. MEDIN recommend that the data below should be extracted and held in a separate table. At a minimum the information in the mandatory fields below should be present and held in the EXIF file.

Heading	M, O, C	Description	
Image (sample event) identifier	M	A unique code or name used to identify the image to allow links to be made to the file and the sample event table	e.g. BODC_nicon590c_00058743
Version	O	The version of the Exif specification being used	e.g. 0220 for version 2.2
Manufacturer	O	The manufacturer of the capture device, as recorded in the Exif tags	e.g. FUJIFILM
Model	O	The model of the capture device, as recorded in the Exif tags	e.g. FinePix S3Pro
Software	O	The software version used on the capture device, as recorded in the Exif tags	e.g. FinePixViewer Ver3.1
FileSource	O	The file source of the image, as recorded in the Exif tags	e.g. 3 for a digital stills camera or 'other' for any other source of digital image.
PixelXDimension	M	The width of the image in pixels	Number; units = pixels (e.g. 2000)
PixelYDimension	M	The height of the image in pixels	Number; units = pixels (e.g. 1250)
xResolution	M	The number of pixels per ResolutionUnit in the ImageWidth direction. When the image resolution is unknown, 72 [dpi] is designated.	e.g. 300

Heading	M, O, C	Description	
yResolution	M	The number of pixels per ResolutionUnit in the ImageLength direction. The same value as xResolution is designated.	e.g. 300
ResolutionUnit	M	The unit for measuring xResolution and yResolution. The same unit is used for both xResolution and yResolution. If the image resolution in unknown, 2 (inches) is designated.	e.g. DPI
ExposureTime	O	The exposure time of the image in seconds	Number; units = seconds (e.g. 0.02)
ExposureBias	O	The exposure bias (or exposure compensation) of the image, which controls the amount of light entering the camera lens	Number; units = step (e.g. 0)
ExposureProg	O	The exposure program used when taking a digital photo.	The term list is shown in Appendix 1.
fNumber	O	The f-number (focal ratio, f-ratio or relative aperture) used in capturing the image	e.g. F5.3
FocalLength	O	The actual focal length of the lens used to capture the image, given in millimetres	Number; units = mm (e.g. 78)
MeteringMode	O	The metering mode used in the capture of the image.	The term list is shown in Appendix 2.
Flash	O	The flash mode used in the capture of the image.	The term list is shown in Appendix 3. If the field is blank it indicates that a flash was not used.
ApertureValue	O	The smallest f-number of the lens used to capture the image, in the units of the Additive System of Photographic Exposure setting. This is normally, but not limited to, the range of 00.00 to 99.99.	e.g. 23.20

2.6   Sample Data

The recommended file format for storing digital images is the TIFF (Tagged Image File Format). TIFF is universe recommended for long-term archive and curation of digital images as it does not suffer from lossy (i.e. a loss of information) compression like other formats such as JPEG which can cause a lack of true representation of the image which was originally captured. Many digital cameras record image properties automatically at the time of image capture in a metadata format known as the Exchangeable image file (Exif) standard. The TIFF file format supports metadata in the Exif standard. In instances when image files are provided in other formats (e.g. jpeg) we recommend that these files are converted to the TIFF format, however appreciate this may be impractical. Regardless of the approach a consistent format for image fields should be sought and compression of files should be strictly avoided.

Many digital stills cameras record their images in a raw image format (also known as a digital negative format or RAW) containing minimally processed data as collected by the imaging sensor. There is not, however, an industry standard digital negative format, so the actual file format may be different between different image capture device manufacturers, or even between models from the same manufacturer. Due to the proliferation of these formats, they are not suitable for the archiving of digital images for any use.

Appendix 1. Term list for image metadata field 'ExposureProg'

1 - Manual
2 - Normal program
3 - Aperture priority
4 - Shutter priority
5 - Creative program
6 - Action program
7 - Portrait mode
8 - Landscape mode

Appendix 2. Term list for image metadata field 'MeteringMode'

0 – Unknown
1 – Average
2 – Center weighted average
3 – Spot
4 – Multi-spot
5 – Pattern
6 – Partial
255 - Other

Appendix 3. Term list for image metadata field 'Flash'

0000 = Flash did not fire
0001 = Flash fired
0005 = Strobe return light not detected
0007 = Strobe return light detected
0009 = Flash fired, compulsory flash mode
000D = Flash fired, compulsory flash mode, return light not detected
000F = Flash fired, compulsory flash mode, return light detected
0010 = Flash did not fire, compulsory flash mode
0018 = Flash did not fire, auto mode
0019 = Flash fired, auto mode
001D = Flash fired, auto mode, return light not detected
001F = Flash fired, auto mode, return light detected
0020 = No flash function
0041 = Flash fired, red-eye reduction mode
0045 = Flash fired, red-eye reduction mode, return light not detected
0047 = Flash fired, red-eye reduction mode, return light detected
0049 = Flash fired, compulsory flash mode, red-eye reduction mode
004D = Flash fired, compulsory flash mode, red-eye reduction mode, return light not detected
004F = Flash fired, compulsory flash mode, red-eye reduction mode, return light detected

0059 = Flash fired, auto mode, red-eye reduction mode
005D = Flash fired, auto mode, return light not detected, red-eye reduction mode
005F = Flash fired, auto mode, return light detected, red-eye reduction mode