ANNEX D

Projected Digital Images

Standards for Events. April 2007.

See Title page for Version information.

Ratified by the Executive.

Photographic Alliance of Great Britain

Projected Digital Images
Standards for Events

April 2007

Version	Date	State
1.0	Jan-07	Outlines of individual standards
1.1	Jan-07	Standards ordered and confirmed as a set.
1.2	25/01/2007	Fifth Interim Report of the Technical Standards Committee
2.0	16/02/2007	New Introduction etc for implementation version. Revision of guidance following consultation. Committee preview version
2.1	18/02/2007	Revisions following completion of consultation. Executive review version
2.2	15/04/2007	Amendments. Executive ratification

Projected Digital Images
Standards for Events

Contents

Introduction

Status

This document has been prepared by the Technical Standards Committee of the Photographic Alliance of Great Britain (PAGB), and is effective when ratified by the PAGB Executive. The status is shown in the Version list.

Technical Standards Committee

The Committee was established by the PAGB Executive in April 2005, and concluded its work in April 2007. The membership was - Mark Buckley-Sharp[1] LRPS CPAGB (CACC) (Chair), Ian Lyons LIPF (NIPA), Roger Force FRPS DPAGB APAGB (KCPA) (until April 2006), and Mike Wheatley (WCPF) (from April 2006).

The Committee corresponded with a wide range of experts already active in projected digital images (PDI), and produced working papers and progress reports. The PAGB Executive published the Committee's Third Interim Report of April 2006, which was the collated technical background to these Standards and Guidance Notes.

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[1] also CEng, FBCS

Terminology

Event	Anything from an internal Club competition to an open international exhibition. Refer to Scope for the applicability of these standards.
Organiser	The person, team, or organisation responsible for running the event.
Author	Anyone submitting an entry to an event.
must	Anything which is mandatory.
should	Anything which is not mandatory, but which is strongly recommended.
may	Anything which is an option or an alternative worth considering.

Format

While acknowledging the work of many other individuals and organisations, especially that of the International Federation of Photographic Art (FIAP), the Royal Photographic Society (RPS), the Electronic Imaging Division of the Photographic Society of America (PSA), and the Photographic Societies of Southern Africa (PSSA), the Photographic Alliance of Great Britain (PAGB) has designed a set of accreditation standards in a substantially different format from anything which has appeared before.

The Standards are brief statements, each showing what is to be achieved: there will be many ways to meet and comply with each standard. The standards are pragmatic; were abstracted from current practice; and are believed to be a complete and adequate set. By design, the standards remind organisers of all the requirements, and allow organisers to self-assess their compliance.

- The 'A'-series standards are those exclusively for the organiser when designing the event and its procedures.

- The 'B'-series standards are also part of the event design, but are where the outcome of that design must be announced to the authors as the requirements for the event.

The Guidance is tabulated to match with each standard. It summarises current practice and draws heavily on the detailed content of the Committee's Third Interim Report. Unlike the standards, elements of the guidance are expected to evolve significantly. More experience and developing technology will make some guidance obsolete, while other guidance becomes more universally adopted.

The PAGB considers that the Organiser and the Authors are the critical participants, who cooperate together in an Event (see Terminology). The Standards and Guidance in this document are primarily addressed to all organisers.

The PAGB accepts that authors also need guidance at both a generic level of training, and at a specific level related to the requirements published by each event. The limited ability of authors to meet published event requirements has been noted by many correspondents. Author guidance is outside the scope of this document: the PAGB encourages organisers to continue with their development and publication of guidance addressed to authors.

Projected Digital Images
Standards for Events

Event Scope

The PAGB only sets standards for its own events, and for those events accepting PAGB Patronage.

The PAGB has no jurisdiction over other events, whether organised by Federations, their member Clubs, or any other photographic organisations. Federations, Clubs and others may find these standards useful. The guidance has been written to include advice relevant to them, especially where that advice may vary from that more applicable to Alliance and Patronage events.

Table: The different levels of events, and the applicability of these standards.

PAGB event	An event organised directly by the PAGB Executive, including competitions, exhibitions, and the awards scheme. **Compliance mandatory** Detailed requirements will be published as required.
Patronage event	An event requesting and accepting PAGB Patronage. Alliance events, except the awards, are also Patronage events. **Compliance mandatory** Self-assessment confirmed via the Patronage application.
Federation event	An event organised by a PAGB Federation, unless that event has accepted PAGB Patronage, in which case it is a Patronage event. **Compliance voluntary** The guidance may be helpful.
Inter-Club event	An event between any group of Clubs, unless that event has accepted PAGB Patronage, in which case it is a Patronage event. **Compliance voluntary** The guidance may be helpful.
Club event	An event within a single Club, unless that event has accepted PAGB Patronage, in which case it is a Patronage event. **Compliance voluntary** The guidance may be helpful.
Other event	An event which is not any of the above. **Compliance voluntary** The guidance may be helpful.

Projected Digital Images
Standards for Events

[Refer to Title - Version for the status of these Standards]
[Refer to Introduction and Event Scope for the applicability of the these Standards]

For the Event Organiser:

A.01 **Equipment.** The organiser <u>must</u> install and commission a digital projection system such that judges, and preferably any other audience, observe a fair and common representation of the authors' submitted images.

A.02 **Data Governance.** The organiser <u>must</u> establish data governance policies and procedures for the event.

For Announcement to Authors:

B.01 **Colour Model and Space.** The organiser <u>must</u> state the colour model(s) and colour space(s) permitted for image data files.

B.02 **Image Size:** The organiser <u>must</u> state the maximum pixel dimensions (width and height) permitted for image data files.

B.03 **File Name.** The organiser <u>must</u> state the format(s) of file name permitted for image data files.

B.04 **File Type.** The organiser <u>must</u> state the file type(s) permitted for image data files.

B.05 **File Size.** The organiser <u>must</u> state any maximum permitted file size for submission of image data files. (Note limited scope of standard.)

B.06 **Media.** The organiser <u>must</u> state the media permitted for submission of image data files; the organisation of files within the media; and how the media will be handled.

B.07 **Metadata.** The organiser <u>must</u> state what information is required to be submitted with image data files, and in what format(s).

B.08 **Publication.** The organiser <u>must</u> state if images from the event are to be reproduced in a catalogue, on CD/DVD, or on a website; and under what conditions.

B.09 **Compliance.** The organiser <u>must</u> state if entries will be rejected where authors fail to comply with particular requirements.

B.10 **Advice.** The organiser <u>may</u> issue advice to authors about how to comply with any specific requirements for the event.

Guidance to Organisers About Standards

A.01 **Equipment.** The organiser <u>must</u> install and commission a digital projection system such that judges, and preferably any other audience, observe a fair and common representation of the authors' submitted images.

A.01.1 **Equipment.**

Digital projection involves imaging software in a computer system driving a digital projector system via the computer's graphics subsystem. This standard requires careful selection, installation, setup and use of equipment, but does not require any particular software, computer or projector.

The projected digital display system is driven by software which <u>may</u> be general purpose imaging software, or <u>may</u> be specially designed to support competitions and exhibitions in photography. In turn, the event software will determine the organiser's workflow for receiving, managing and displaying the images. No firm recommendation can be given for any software. A more important requirement is that the organiser is fully trained and conversant with the chosen software so that the event runs smoothly.

The most commonly chosen image size capability for projectors is XGA (1024 pixels wide by 768 pixels high). Many models are available. Other image sizes coming into use include SXGA+ (1400 pixels wide by 1050 pixels high). As SXGA+ is an emerging facility, the organiser <u>may</u> need to take care that the computer graphics subsystem can drive both the projector and any matching display at the SXGA+ dimensions.

A "fair and common representation" means that some care <u>must</u> be taken to adjust settings of brightness, contrast, and colour. These adjustments <u>may</u> be made in the projector, or in the graphics driver system of the computer, or frequently in both. In any case, the computer and projector are set up when paired as a single system, and not as two disconnected units.

The PAGB has collated information on acceptable screen brightness (white value). Measured by reflection from a white screen, and metered at ISO100, an EV in the range 7-9 is generally suitable. Within this range, there is some evidence that smaller screen images <u>may</u> be brighter, and that large screen images <u>should</u> be less bright. This <u>may</u> be an observer preference related to image size within a blackout.

There are various methods of calibrating systems for colour, but there is neither any one correct method, nor any one achievable standard. For all calibration methods, the user <u>must</u> be familiar with the basic concepts of brightness, tonality and colour in order to judge what adjustments are required, and the final outcome.
- Where the projection system has a monitor in parallel with the projector display, then the monitor display <u>must</u> be disregarded when calibrating the projector.
- Projectors vary greatly in the range of manual settings available in their operating menus. Records <u>should</u> be kept of all manual settings, so that the projector can be returned to a known state.
- With time and care, a good result <u>may</u> be achieved by manual adjustments on some projectors, but a projector cannot be calibrated adequately using only its brightness, contrast and colour temperature

settings.
- Simple aids such as Adobe Gamma <u>may</u> be used, and <u>may</u> be reasonably effective.
- Hardware calibration systems <u>may</u> be used. These systems rely on spectrophotometric detectors whose repeatability and calibration <u>must</u> be adequately maintained by the user, according to the manufacturer's instructions. It <u>may</u> be simpler and cheaper to purchase a calibration service rather than the calibration equipment itself.

Ultimately, the quality of projection is a subjective assessment.
- Quality <u>may</u> be reviewed using step wedge images, particularly grey-scale: several of these are published for free use.
- Standard published colour charts and a range of typical photographic images <u>should</u> be viewed and assessed.
- Demonstrating standard images to the event judge(s), and to any audience <u>may</u> be both helpful and educational.

Where an event is prejudged eg, by the judge at home, then the organiser <u>must</u> be satisfied that the judge's equipment will meet standards of display which are suitable for the event.

A.01.2   Interpixel Processing.

Interpixel processing happens whenever any interpolation is applied to the pixels of the image data. Interpolation by the organiser always degrades the image so that it differs unpredictably from the image submitted by the author. The following scenarios causing interpixel processing are additive in degrading the image. Some cause more degradation than others.

Interpixel processing needs to be minimised as far as possible, although this requirement <u>should</u> be interpreted according to the quality expectations of the authors submitting to the event. For Patronage events, authors will expect very good quality of image reproduction, meeting as many as possible of the following recommendations. For Club events, the organiser <u>may</u> need to be much more flexible so as to facilitate submission by novice authors, and ensure that their work is shown even if at reduced quality.

The statements made for each of the following scenarios show how best quality can be maintained. Where this is not possible for individual scenarios, then the event organiser <u>must</u> still be satisfied that quality remains fit for purpose.

A.01.2.1   Driver/Display Matching:
- The settings of the projector's display driver <u>must</u> match the native resolution of the projector.

A.01.2.2   Data Cabling:
- The quality difference between analog and digital connection is difficult to see. VGA and DVI cabling are acceptable alternatives.
- The computer and projector <u>may</u> be connected using an analog ('VGA') cable (connector colour-code, blue). The data on individual display lines is converted from digital to analog by the computer and back again by the projector. There is some loss of horizontal definition due to the conversion processes, with no exact pixel

mapping from the image data to the display. There may be some setup difficulty with 1-2 pixels error on either side of the display. High frequency losses on analog cables add to the reduction in horizontal definition, and this effect will become more pronounced as the cable length increases.

- The computer and projector <u>may</u> be connected using a digital (DVI-D) cable (connector colour code, white), which allows pixel mapping to be exact. [Note. This does not mean use of the analog signals available on a DVI-I socket, which may be connected to an analog cable by an adapter.] However, relatively few computers, and not all projectors, have a DVI connector as standard. Although the signal is affected by cable length, the digital waveform is reconstructed by the projector to minimise the effect.

- The data transfer rates on video cables, both analog and digital, are very high. Some projectors offer an alternative of wired or wireless network connection for image data. Wired networks run at the speed set by the lower of those available at each end ie, computer or projector. Wireless networks are even more variable. None of these networks is able to transfer data at their rated speed due to packet overheads and contention: a best load factor of 40% is typical. Great care <u>must</u> be exercised before committing to use a network connection to the projector for photographic quality image data.

A.01.2.3 Colour Mode:
- The projector <u>must</u> have, and <u>must</u> be set to use, a static colour mode, such as sRGB.
- Colour modes intended to correct for screen colour eg, blackboard mode, or which adjust the image based on image content, sometimes called dynamic modes, <u>must not</u> be used.

A.01.2.4 Keystoning Correction:
- Digital keystoning correction in the projector <u>must</u> be set to zero or disabled.
- However, the degradation due to digital keystoning <u>may</u> be minimal and acceptable.
- Optical keystoning correction is permitted. Methods include
    o Mechanical lens shift (available on some projectors)
    o Set the projector exactly level, and at a suitable height to project the required image on a vertical screen.
    o Allow the projector to be tilted, but also tilt the screen to retain a rectangular image.
- Some uncorrected optical keystoning <u>may</u> be acceptable.

A.01.2.5 Resizing:
- Resizing by display software <u>must</u> be turned off.
- Using display software to automatically resize an image file to the pixel dimensions of the display <u>may</u> however be necessary as it is tolerant of faults by authors.
- Having published the image size (see B.02), the organiser <u>must not</u> then reduce the projected size, by rescaling the author's image during the event, in order to accommodate any on-screen title.

Guidance to Organisers About Standards

A.02   **Data Governance.** The organiser <u>must</u> establish data governance policies and procedures for the event.

A.02.1   Data governance means the arrangements in place to manage data according to law and good practice.
- Law relevant to projected digital events includes that for data protection and copyright.
- Good practice means being aware of the typical standards of behaviour expected within amateur and professional photography, both for all events, and for projected digital events. This documentation only covers standards specific to projected digital events.

A.02.1.1   Data Protection:
- The organisation running the event <u>must</u> have a policy for data protection relating to information about authors.
- While all events handle personal data, digital events tend to store more data, which can then be inadvertently copied, lost, or retained excessively.

A.02.1.2   Copyright:
- Digital events store all images electronically. There <u>must</u> be a plan for any publication eg, of catalogues, and for secure destruction of the images after the event.
- Examples of good practice for publication are shown with standard B.08.

Guidance to Organisers About Standards

B.01   **Colour Model and Space.** The organiser <u>must</u> state the colour model(s) and colour space(s) permitted for image data files.

B.01.1   Almost invariably, the only permitted colour model will be RGB (as opposed to CMYK, Indexed colour, Greyscale, Lab, etc)

Within the RGB colour model the commonest colour spaces likely to be permitted are:

- sRGB
- AdobeRGB

Image capture devices (cameras and scanners) sometimes use proprietary colour spaces, possibly for licensing/patent reasons. To avoid potential errors in displaying images using proprietary colour spaces, the organiser <u>should not</u> permit a wider variety of colour spaces than shown.

Where only a single colour space is to be permitted, then sRGB <u>should</u> be chosen. This is likely to lead to fewer errors by authors.

'Colour aware' in relation to image display software means that the software recognises and acts on any colour space tag/profile attached to each separate image file, and modifies the image presentation of each file accordingly. Colour aware software defaults an image file lacking a colour space tag/profile into the sRGB colour space.

If the display software used by the organiser is not colour aware, then the organiser <u>must</u> restrict entries to a single colour space, usually sRGB.

The organiser <u>may</u> choose to restrict entries to a single colour space anyway.

If the display software used by the organiser is fully colour aware, then the organiser <u>may</u> choose to permit entries in either colour space. The organiser <u>must</u> then remind authors to embed the correct colour space tag/profile within the image file.

Guidance to Organisers About Standards

B.02   **Image Size:** The organiser <u>must</u> state the maximum pixel dimensions (width and height) permitted for image data files.

B.02.1   The image size <u>must</u> be expressed as the pixel dimensions of the image data file, and <u>must</u> be quoted as width followed by height. These dimensions <u>must not</u> be greater than the native resolution of the projector.

Image resolution, which is expressed as pixels/inch, dots/inch (or per centimetre), has no relevance for projection or publication by the event, and <u>must not</u> be specified.

The permitted pixel dimensions <u>may</u> equal the native resolution of the projector:
- The most commonly used dimensions are 1024 pixels wide by 768 pixels high (XGA projector).
- Other dimensions coming into more frequent use include 1400 pixels wide by 1050 pixels high (SXGA+ projector).

The permitted pixel dimensions <u>may</u> use less than the full width for the projector, with the outer areas unused and displayed black. This is so that portrait images and landscape images both use a similar screen area.
- For an XGA projector, some organisers have specified use of 900 pixels wide by 768 pixels high.
- For an XGA projector, some organisers have specified use of 768 pixels wide by 768 pixels high ie, square format like slide projection.
- Equivalent ratios <u>may</u> be used for SXGA+ projectors eg, the square format would be 1050 pixels wide by 1050 pixels high.

The permitted pixel dimensions <u>may</u> be smaller than both full width and full height, with the surround unused and displayed black. Organisers <u>may</u> want this for web-based events where file size and transfer times need to be minimised.

Authors remain inexperienced in sizing images correctly for the projection space. In the interim, it <u>may</u> help to be very explicit about both the maximum width of 'landscape' images, and the maximum height of 'portrait' images.

Some projector setups do not display exactly to include their edge pixels. If the organiser is aware of this, then authors <u>should</u> be advised not to use any distinctive edge border to the main image.

B.03   **File Name.** The organiser <u>must</u> state the format(s) of file name permitted for image data files.

B.03.1   No specific file name format(s) are required by this standard.

For the reasons given in this guidance, there are good and compelling reasons why there can be no prescribed format for the file name.

B.03.1.1   Character set and Examples

Authors <u>may</u> be using either Microsoft or Apple systems, and the file name specification <u>must</u> suit both.
- For Microsoft systems, some punctuation characters are permitted within the file name, some are prohibited and some are deprecated. For a complete list refer to Microsoft systems Help.
- For Apple systems, most punctuation characters are permitted, colon is prohibited, and slash is deprecated.
- As the Microsoft list is more restrictive, all filenames <u>must</u> conform to the Microsoft specification, so that files can be exchanged without difficulty.

The period character <u>should</u> be avoided within the permitted format(s) of file name, as it can be confused with the period required to separate off the file type. The period character <u>must</u> be avoided at the start of the file name as it can cause the file to be hidden in Microsoft systems.

Use of spaces within the permitted format(s) <u>should</u> be clarified. Space is deprecated in web file names for cross-compatibility amongst web server systems. If the author uses 'Save to Web' with a file name containing a space, then the space is automatically replaced by minus, which changes the format. Underscore is sometimes preferred instead of space.

When stating the organiser's required format, and when illustrating with any examples, the comparison between the two <u>must</u> be exact, character for character. Say, the organiser publishes:
- the filename format is   Clubcode , Title
- and an example of this is   ABCLandscape

This format and example are discrepant. In the format, the space comma space between Clubcode and Title are not matched in the example.

B.03.1.2   Choice of File Name Format to Aid Automation

For efficiency and to avoid errors, the organiser:
- <u>Should</u> avoid any choice of file name format which then requires mass renaming of files after receipt.
- <u>Should</u> devise a file name format where receipt of files with duplicate names is either very unlikely or impossible

The permitted format(s) of file name <u>may</u> be determined within tight limits by the organiser's choice of display/competition software. In turn, this will dictate how much assistance the file name gives to the organiser when planning an effective and secure workflow for the event. Such assistance is often part of the intended design of such software.

Some display software can only show images in one folder and then in file

name alphabetic order. Organisers will often want to show images in a differently sorted order. It <u>may</u> be possible to devise a file name format where the authors randomise their own entries eg, by including the image title first in the filename.

Other events <u>may</u> require a file name format which, when entries are in alphabetic order, provides a specific hierarchy of file sorting. For example, where entries are to be shown cyclically by class, author or Club. The file name <u>may</u> then be divided into fields in the hierarchical order: highest first. Examples of such events and suitable file name formats include:

- An event has 3 classes, called '1' '2', '3'. The class number <u>must</u> come first in the file name. There <u>must</u> be a way of ensuring that the remainder of the file name is unique within the class.
- An inter-Club event has 6 entries per Club, and the entries are to be shown in cyclical order by Club. The entry number (1-6) <u>must</u> come first in the file name. The Club name or code <u>must</u> come second in the file name. As these first two fields will be unique amongst all entries, the remainder of the file name can be anything (or nothing).

Allocating codes eg, to classes or Clubs as above, is not essential if the entities are unique when expressed in full. Codes <u>may</u> be convenient abbreviations and <u>may</u> minimise typing errors, but code tables <u>must</u> be managed. Codes are unlikely to be understandable outside their domain. Eg, PAGB Federation codes are only relevant within PAGB events.

When fields are used in the file name, they <u>may</u> be directly concatenated, although this can be less readable than the use of a separator character or keyword.

- A chosen separator character <u>must</u> be permitted within a file name but unlikely to be otherwise required eg, hash '#'.
- A keyword <u>may</u> be made unique by requiring a case change eg, <title in mixed case> BY <author>, where <title> might contain 'by' but probably not 'BY'.

The display software <u>may</u> allow a play list, so that the organiser can assign the display order ignoring the alphabetic order of file name. The software <u>may</u> automate setting the play list to a random order. It would still be necessary to devise a file name format such that all the submitted image data files have a unique file name.

It will be apparent that different events <u>may</u> require very different file name formats for the same image file from the same author.

- For events accepting entries direct from authors, the authors <u>must</u> personally comply with the file name format(s) required.
- For events involving intermediate selection and assembly eg, by a Club or Federation, then the selectors <u>may</u> be required to rename the authors' image files into the format(s) required by the event.

Guidance to Organisers About Standards

B.04   **File Type.** The organiser <u>must</u> state the file type(s) permitted for image data files.

B.04.1   For both Microsoft and Apple systems, the file type format is typically 3 but can be 4 characters, and it follows the last period character of the file name. Although case insensitive, it is conventionally in lower case.

There are many file types available for image data files, and each has detailed options. In practice, only the following file types are likely to be permitted:
- jpg (and optionally as jpeg)
- tif (and optionally as tiff)

The organiser's published requirement, and any examples in advice to authors, <u>should</u> use only the 3-character lower-case format.

Practical experience is that projected digital display of a maximum quality jpg file is indistinguishable from display of a tif file. There is no specific advantage is either permitting or requiring tif files for projection.

Options for jpg file type:
- Where files are submitted on CD media, then the organiser <u>should</u> recommend the maximum quality setting of 12 or 100%. Limitations on file size <u>must not</u> be stated.
- Where files are submitted by e-mail, then the organiser <u>may</u> state a maximum file size for ease of handling (standard B.05).

Options for tif file type are chosen to minimise variation and maximise compatibility across the submitted files, which will be on hard media:
- The organiser <u>must</u> instruct authors to:
  - flatten all layers.
  - remove any alpha channels.
  - use 8-bit colour (24-bit pixels in RGB).
  - not use any compression.

Guidance to Organisers About Standards

B.05   **File Size.** The organiser <u>must</u> state any maximum permitted file size for submission of image data files.   (Note limited scope of standard.)

B.05.1   This standard does not apply where submission of image data files uses hard media such as CD/DVD or memory card/stick. In these cases, file size <u>should not</u> be mentioned and all file sizes <u>must</u> be accepted.

This standard only applies where submission uses e-mail/web submission of jpg files, where the organiser <u>may</u> want to limit the bandwidth and time for image downloading. The jpg file type allows the author to vary the file size, for given pixel dimensions, by choosing the amount of compression.

For events which are displayed and managed entirely on the internet, the organiser <u>may</u> already have limited the pixel dimensions of images, and this will itself limit the file size.

The organiser <u>must</u> be sure, by evaluating typical images, that any file size limit will give a satisfactory quality of image when displayed.

Guidance to Organisers About Standards

B.06   **Media.** The organiser <u>must</u> state the media permitted for submission of image data files; the organisation of files within the media; and how the media will be handled.

B.06.1   The permitted range of media <u>may</u> include any/all of:
- CD (or DVD)
- Memory card/stick
- e-mail attachment
- other as required

B.06.1.1   For CD/DVD media:
- The organiser <u>should not</u> permit use of preformatted RW type media. These are frequently only readable on the originating drive.
- The organiser <u>may</u> recommend finalising the media when written (preventing future additions). There can be difficulty reading unfinalised media from other systems.
- The organiser <u>must</u> state any permitted or required folder structure for the data files.
  - Files <u>may</u> be required to be all in the root folder.
  - Files <u>may</u> be required to be all in a single folder (within the root folder), which <u>may</u> be permitted or recommended to be either a normal folder or a zip folder. There <u>may</u> be a specification for the name of the folder, such as the name of the author, or a fixed name like 'Entries'.
  - Allowing files in any more complex folder structure is not recommended.
- The organiser <u>may</u> state that all media will be destroyed after the event, or <u>may</u> state the arrangements for returning media to some or all authors.

B.06.1.2   For Memory card/stick media:
- The organiser <u>must</u> state the permitted types.
- The organiser <u>must</u> state any permitted or required folder structure for the image data files.
  - (The options are the same as for CD media, above.)
- Cards (CF, SD, xD etc.) and USB flash memory are relatively expensive media, likely to be confined to Club events, where authors are readily available for the return of media.
- Each individual type/make of these media can require hardware registration on the computer when first presented. Allowing authors a free choice of type/make can waste a lot of the organiser's time. A pool of identical media eg, within a Club, <u>may</u> be feasible.

B.06.1.3   For e-mail attachment:
- There are normally no compatibility or security issues when attaching image data files or zip folders to e-mails.
- The organiser <u>should</u> state whether multiple entries are to be submitted as separate attachments, or whether their collation within a single zip folder is either permitted or recommended.
- Image data files attached to e-mails do not need to be returned.

Guidance to Organisers About Standards

B.07   **Metadata.** The organiser <u>must</u> state what information is required to be submitted with image data files, and in what format(s).

B.07.1   The image data file content alone is anonymous (as is an unlabelled print or slide), and the organiser <u>must</u> state how the image data file is to be linked to other information to make a manageable entry.

The complete set of information about the image file is called the metadata, and will comprise a combination of the following:
- The colour model and space of the image. See B.01.
- The file name of the image. See B.03.
- The file type of the image. See B.04.
- The media for recording the image, and how it is formatted and labelled. See B.06.
- Metadata embedded within the image file. Examples include colour tag/profile, EXIF metadata (recorded by the image capturing device), and IPTC metadata (added by an image management system).
- Electronic metadata external to the image file. Examples include 'readme' text files, e-mail text with the image file attached, and XML metadata.
- A paper or web-based entry form.

Ideally, the metadata <u>should</u> support a level of automated handling of the image files. Automation has the capability to reduce data handling errors. The organiser's metadata requirements are likely to be closely linked to the capabilities of the display software chosen for the event.

IPTC metadata is intended to manage press and professional images through wide-area publication, and has been used by some event organisers. Not all imaging software used by amateur authors includes the ability to set and edit IPTC metadata, although suitable freeware is readily available. Imaging software refers to IPTC fields in different ways in different versions, requiring careful advice to authors.

At least one display system designer has built a system allowing an author to submit the image data file complete with metadata taken from an on-screen form, sent to the organiser as an XML structured message on CD or by e-mail. On receipt, the organiser has all the information to automate addition of the entries into the event.

Both IPTC and XML metadata automation depend upon all authors having the appropriate software and skill.

Otherwise, there is likely to be ongoing reliance on paper forms (or e-mail text equivalents) linking the author's details to labelled media and the image file name.

B.08 **Publication.** The organiser <u>must</u> state if images from the event are to be reproduced in a catalogue, on CD/DVD, or on a website; and under what conditions.

B.08.1 Particular considerations apply to handling digital images because of the ease with which they can be copied, and the possible lack of any record of such copying.

Separate high resolution image data files <u>should not</u> be requested from all authors merely for small catalogue prints, CD/DVD or web publications.

For a printed catalogue:
- Limited circulation gives a lower risk of unauthorised copying.
- Selected authors <u>may</u> be asked to provide additional high resolution image files for larger prints (>A5) such as for publicity and posters.

For CD/DVD publication:
- Publication <u>should</u> be cross-platform (Microsoft/Apple) compatible.
- There are few ways to restrict CD/DVD media copying. Attention <u>should</u> be given instead to securing the images.
- The images <u>may</u> be managed as for web publication (see below), with the same risks.
- It <u>may</u> be possible to secure the images within display software. For example, Pictures2Exe has an option to disable PrintScreen.
- Image files placed within software such as Microsoft PowerPoint or Adobe PDF are not secure.

For web publication:
- Consideration <u>must</u> be given to the possibility of the author's image being copied from the web by anyone. It is inherent in web browsers that all source data is downloaded and can be saved.
- An image data file submitted for projection will have more pixels (width and height), and will be at higher quality than it is wise to publish on the web.
- Where image file submission is specifically to a web managed event, then the image dimensions and compression quality <u>may</u> have been limited already. The organiser <u>should</u> still consider whether any further reductions are necessary before long-term publication.
- Consideration <u>should</u> be given to the overall file size when published on the web so as to avoid excessive download times for all users. A file size below 50KB <u>should</u> be achieved if possible.
- The organiser <u>should</u> manage file size and quality reduction from the submitted images eg, by automation in website creation software. A dimension of 350-450 pixels on the long side of the image is usually sufficient; with JPEG-5 compression.
- It is feasible to overlay the author's name and copyright within the image file before it is published on the web.

Guidance to Organisers About Standards

B.09   **Compliance.** The organiser <u>must</u> state if entries will be rejected where authors fail to comply with particular requirements.

B.09.1   Events vary in scope from Patronage level to Club level.

At all levels, it is recognised that authors currently have limited ability to comply with, or sometimes even to understand the requirements published by organisers. Organisers <u>may</u> therefore be forced to be tolerant of many types of error amongst the entries.

At Patronage level, an organiser <u>should</u> reject entries for non-compliance.

At Federation level, acceptable non-compliance might allow eg, file name or file type corrections, but <u>must not</u> extend to the organiser making any manual changes to the image content. Automated changes, such as resizing during display, <u>may</u> be necessary.

At Club level, an organiser will need to encourage a full range of authors, including novices. The organiser <u>should</u> have tolerant processes for handling image files. Minor faults are those which can be rectified easily by the organiser and which do not unduly affect the quality of the projected image eg, manual resizing. Non-compliance by authors <u>should</u> be managed by an educational programme, which will also help authors to progress to events at higher levels.

B.10   **Advice.** The organiser <u>may</u> issue advice to authors about how to comply with any specific requirements for the event.

B.10.1   The advice which authors will find useful will vary from event to event.

In general, these standards allow each organiser to act alone in setting the event's requirements, and in publishing any matching advice to authors. Authors are then responsible for complying with the requirements for each event, regardless of any differences between events.

Organisers of events which rotate eg, amongst Clubs or Federations, and the collective organisers of open exhibition circuits <u>should</u> cooperate to prepare requirements which enable common submission by authors.

Organisers <u>may</u> choose to collaborate to issue compatible, or even identical, forms of advice for their events.

The format of advice <u>may</u> vary from simple text, through text illustrated with screenshots from particular software, to a significant educational programme.