

## BILL'S QUICK GUIDE TO DIGITIZING THE ARCHIVE

A combination of simple technology and rigorous data management

### Camera Settings

The goal is simply to take legible photos, not to make press-quality reproductions. (See my separate handout on high-quality scanning.) This means that the photo resolution can be relatively low – as low as  $1600 \times 1200$ , or two megapixels – and your main concern is to avoid blurry images. Almost all archives and libraries prohibit flash, and it's rude in any case. There are two key things to watch:

1, Shutter speed. You need your shutter speed to be fast enough to avoid blurriness from camera shake. You should experiment with your own camera (and the steadiness of your own hands), but you'll probably need at least 1/40th of a second. For most people, 1/60th is always fast enough, while some can (sometimes) go as low as 1/10th. But what if the shutter speed is too slow – how do you get faster shutter speeds? Step 1: turn on more lights! Step 2: try increasing your ISO.

2, ISO. (This acronym refers to a rating system for the sensitivity of physical film by the ISO – the International Organization for Standardization – in the 1970s.) For digital cameras, a higher ISO means that the camera sensor will be more sensitive to low light, but the tradeoff is grainier photos. Ironically enough, ISO isn't very well standardized between brands, so you'll have to experiment to see what works well. But doubling your ISO – going from 200 to 400, for example – will cut your shutter speed in half.

### What Kind of Camera?

In general you don't need to buy a special camera for archives, and your existing camera – or even your smart phone – is probably adequate. In particular, all cameras (and phones) have plenty of resolution, and having more megapixels does *not* mean better archival photos. (It often just means wasted hard-drive space.) But there are two reasons why your existing camera might not be workable. One is low-light capability. For this you'll probably want to read plenty of reviews, since just looking for something like high ISO settings doesn't necessarily mean you'll find a good camera. In general, you can look for a larger sensor and a low minimum f-stop (all else being equal, f/2 will let in twice as much light as f/4). But larger sensors and low f-stops mean heavier and more expensive cameras. The other main consideration is ergonomics. When you're in full archive mode, you might be holding your camera for eight hours a day, five days a week, and a lighter camera that you can handle one-handed will definitely make your life better. One feature that I really like is an articulating LCD screen, which allows you to remain seated instead of having to stand up and lean over.

### Making PDFs

Everyone has their own system for organizing files and managing archival material. For my own research, I've found it really helpful to turn every archival document into its own PDF. I simply bundle a series of photos using the "Merge Files into a Single PDF" command in Acrobat Pro. (Or in Windows, you can just select multiple files then right-click and choose "Combine supported files in Acrobat.") I always have the first few pages of any PDF be photos of the box and the folder, so that no matter how I reorganize my files, each

document will still contain full citation information. The attached images give an example. All this mindless work definitely takes time, but the alternative – twenty thousand photos with names like IMG5324, IMG5325, etc. – is insane. If you ever need to unbundle a PDF, the “Export All Images” command will return your photos in their original condition.

I also use the same system for articles in periodicals. It’s much quicker to take some digital photos in the stacks than it is to lug thirty volumes of *The Military Engineer* to the scanner.

For batch processing of images before making my PDFs – for example, increasing the brightness and contrast on every photo I took at a particular archive – I use a free program called IrfanView (once it’s open, hit B for Batch). Photoshop also does batch processing, but it’s not as user-friendly. But be careful! There’s no undo for batch processing, so be sure to save the processed files to a different folder and confirm that they look good before deleting the originals.

### **Organizing Documents and Notes**

Keeping your files organized in exactly the way you found them in the archive is usually not helpful, and sometimes it can be quite unhelpful. But it can be useful to keep some archive-based organization, if only to help you locate your files. The important thing is to keep things fluid, easy to reorganize if need be, and manageable.

My default strategy is to name every PDF as *year-month-day author - title.pdf*. For example: “1950-09-14 o’keefe to fischer.pdf,” or “1993 edney - cartography without progress.pdf,” or “1943-06 invasion plan.pdf.” This means that all files in the same folder will alphabetize in chronological order. (In the archive, documents are often out of order, and you’re required to leave them just as you find them.) Other alphabetization schemes are also possible, such as *author date title*, but I haven’t found them as helpful.

I take notes on every PDF in a new text file. So in theory, each PDF is eventually paired with a TXT file of the same name. This way, I can see immediately which PDFs I’ve already read and which I still need to process. (If I then need to take notes about my notes, I’ll start a new text file and begin its filename with an exclamation point, so that it will alphabetize as the first file in the folder. For example, in a folder of documents about French mapping, I might have a file called “! french mapping.txt” where I collect my thoughts about French mapping in general.) I find that using TXT files is much quicker and easier than using Word or LibreOffice files, since they open almost instantaneously and I’m never tempted to fuss with formatting. Searching across multiple files is also very easy using the built-in search of my operating system.

Don’t be shy about making *lots* of folders and reorganizing them as needed. I have folders that hold just two or three documents, and others that have a few hundred. My entire “dissertation archives” folder contains 320 subfolders (nested within each other as appropriate), which together hold about 3500 PDFs. This is in addition to 4200 PDFs from non-archival sources. I only ended up taking notes on 30–40% of these documents. (I also had several false starts and went to a few archives that weren’t even worthy of PDFing – about 12,000 unsorted, unused photos. If only I knew then what I know now!)

RG 331 (Allied Operational and Occupation  
Headquarters, World War II)

SUPREME HEADQUARTERS  
ALLIED EXPEDITIONARY FORCES  
Air Staff, SHAEF  
A-3 Division (Operations)  
Air Plans Section  
Numeric File  
1943-45

13453 to 15503

Box No. 74

E. 268

1,408,7, 7,108, 550,000

2008

"HISTORICAL DOCUMENT"  
Permanent Preservation

TOP SECRET

ROYAL AIR FORCE.

File Number

RAF/TS. 15501/NAV.

UNIT OR BRANCH

NAVIGATION.

Date of Opening

12 NOVEMBER 1943.

SUBJECT

OPERATIONAL EMPLOYMENT OF GEE  
AND G-H AS NAVIGATIONAL  
AIDS.

References to other Papers

Referred to

Referred to

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AUTHORITY TO PA

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11A #2A

COPY NO.....

1943.

From:- Headquarters, No. 38 Group.

To:- Headquarters, A.E.A.F. (Copy to: Air Ministry, Director of Radar.)

Date:- 18th December, 1943.

Ref:- 38G/MS. 701/2/Nav.

A. E. A. F. H. Q.	
CENTRAL REGISTRY	
To: <i>[Signature]</i>	
WITH	ENCLOSURES
RECEIVED 20 DEC 1943	
MOST SECRET.	
RELEVANT FILE & LABEL	
FILE No.	ON
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MOBILE GEE & G.H. - OPERATIONAL USE.

- Minutes of a meeting held at Air Ministry (Whitehall) on the operational use of GEE and G.H. contains much of considerable interest to this Group.
- It is not understood why this Group was not invited to send a representative to attend.
- Our problem is to locate pinpoints in enemy territory with an accuracy of a few hundred yards. The only means available and practised are GEE and map reading. The production of 1/50,000 series maps with lattice co-ordinates would be of great value to 38 Group units, and it is assumed that this matter will be discussed at the conference on Monday 20th December at Bentley Priory per signal from H.Q. A.E.A.F. N. 504 dated 17th December, 1943.
- The installation of G.H. in aircraft would overcome the difficulty of navigating accurately at night to Dropping Zones. This Group, therefore, would be interested to experiment with G.H. at lower heights than T.A.F. aircraft.
- It is intended to send a representative to discuss problems affecting the Group, and to obtain an amplification of matters recorded in the minutes. He will also stress the request that 38 Group be represented at future meetings.

*F.M. Bladin*  
 (F.M. Bladin) A/Comdr.  
 for Air Vice-Marshal  
 Air Officer Commanding  
 No. 38 Group, R.A.F.

19745



RECEIVED 15567.	
RELEVANT FILE & LATEST TRANSMIT	
FILE No.	ON
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In respect of (iv) above, the GH airborne requirements for the A.E.A.F. were at first to be met by diverting a small number of sets from the Bomber Command quota. The number is not likely to exceed 15 by January 1944 but it is hoped that an additional 100 will be made available by March, 1944, although this is still by no means certain.

ITEM 2.

"Statement by T.A.F. representative on the intended operational use of the above equipment in terms of:-

- The types of aircraft;
- Nature of operations;
- Approximate accuracy hoped for in each case.

1974

(GV149) W. 8447/1585. 2001. Part 5/42. B. & S. Ltd. 51-4771.