

Catalogue N, for box-files N1 – N6.

Scope: Personal and biographical papers, including laboratory notebooks, of key Elliott people. Covers the period 1923 – 2007. Includes Leon Bagrit, Harry Carpenter, John Coales, Bill Elliott, Andrew St Johnston, etc. etc. Note that correspondence from some of the people named in this section also occurs in catalogue section M.

Cat. No.	Date	Description	Comment
N1	1923	Leon Bagrit's application for admission to Birkbeck College.	Photocopy of application form, which gives Leon Bagrit's school (St Olave's) and occupation ('C Traveller').
N1	1964	The ABC of 'electronic brains'. Leon Bagrit,	Photocopy of a 47-page illustrated booklet, based on a series of six talks broadcast in the external service of the BBC. Contains many photos. This photocopy made for H G Carpenter in 1992.
N1	1961 - 1979	Leon Bagrit: biographical notes from obituaries, articles, etc.	Photocopies of obituaries in The Times and the Daily Telegraph; bio-data from book cover, 1964; Sunday Times article, April 1961; entry in <i>Dictionary of National Biography</i> . Also, article in Time Magazine for Friday Nov. 2 nd 1962 which mentions the Spencer steel plant of Richard Thomas & Baldwin; two thirds of this article are on Bagrit himself.
N1	2003	Documents relevant to establishing communication between SHL and Alex Kahan, a grandson of Leon Bagrit, via the Bagrit Centre at Imperial College.	The contact came via the Bagrit Centre at Imperial College, London. An e-mail dated 13/8/2003 established communication between SHL and Alex Kahan. Although a few Bagrit documents were sent by Kahan, and returned by SHL, Kahan's offer of help regrettably proved to yield little of importance in the period 2003 to 2010.
N1	19 th May 2011	Symposium at Imperial College to celebrate the life of Sir Leon Bagrit	Contains: (a) Glossy Brochure containing list of speakers (including SHL and Chris Burton from the Computer Conservation Society). Includes photos of Sir Leon, Lady Stella Bagrit, Alex Kahan (grandson) and Peter Fielding (friend of Bagrit); (b) Notes & slides for SHL's talk; (c) notes from Bagrit's 1964 BBC Reith Lectures.
N1	21 st Aug 1946	Agreement for Service between Elliott Brothers (London) Ltd and J F Coales.	John Coales' employment contract. Also, letter from A & G Tooth, Solicitors, dated 15 th March 1952, returning this document to J F Coales.
N1	Sept./Oct. 1946	Correspondence between JFC and Sir Charles Wright, Royal Naval Scientific Service.	'Good luck on leaving' after JFC's 17 years in the RN Signal School and ASE.
N1	12 th June 1951	Cocktail party, guest list.	Four typed pages of names, both internal Lab staff and external guests. Many from the scientific 'great and good' are featured.
N1	Aug. 1951	Correspondence between JFC and ASRE, relating to the 'Peevish' and 'Avocado' projects.	
N1	1951 – 1952	Miscellaneous correspondence.	Three letters with undecipherable signatures. Also, JFC's note of the business and private addresses of two close contacts (his solicitor and

			Prof. J F Baker (Cambridge)).
N1	c. March 1952	Personal letters of support for JFC.	Folder (actually JFC's desk-blotter) containing approximately 23 personal letters of support, written in March 1952 after the announcement of JFC's resignation from EBRL. There are also typed-up reference copies of some of these letters.
N1	April 1952	Presentation album containing the signatures of 401 Borehamwood staff.	Brown imitation leather Book of signatures, on the occasion of JFC's departure from EBRL, April 1952. (Measures about 33cms x 23.5cms x 3cms).
N1	Spring 1952	'Official' correspondence between JFC, relating to his resignation from Elliott Brothers (London) Ltd.	(a) letters to/from Elliott Company Board members; (b) letters to/from the Admiralty, etc.
N1	Spring – Summer 1952	Correspondence relating to JFC's post-Elliott job applications.	AT & E, Plessey, RN College Greenwich, National Coal Board, University of Cambridge, etc. Also, JFC's notes.
N1	c. 1954	List of senior staff who have left the Borehamwood Labs since March 1952.	Typed foolscap sheet (and carbon copy), and three handwritten rough notes. Gives names, status and destinations. Deduce that the list was compiled in 'late 1954' because the destinations of W S Elliott and H G Carpenter are noted as 'NRDC' – (presumably working on the 401 computer).
N1	Jan. 1955	J F Coales' correspondence with Sir Ivan Stedeford of Tube investments Ltd.	Concerns some 'serious allegations' – possibly relating to the departure of Hemingway and Cochrane from Borehamwood.
N1	1999 - 2003	Obituaries and other biographical notes on John Coales.	Includes a copy of the Biographical Memoirs of Fellows of the Royal Society, with an annotation by Alison Steer, John's daughter. Also, notes made by SHL of documents, letters and photographs received from Alison Steer (né Coales). Note that at a subsequent meeting in 2011, after <i>Moving Targets</i> had been published, Alison donated all the items in this catalogue to posterity.
N2	1949 - 1953	Harry Carpenter's Lab notebook number 1.	Buff foolscap-sized stiff-cover notebook, covering the period 5 th January 1949 to 17 th March 1949 (?). Then 1 st May 1952 to 7 th Jan. 1953. Harry joined Borehamwood on 1 st January 1949. The first section of this notebook is mostly circuit design notes for the 152 computer, axis-conversion considerations and general digital computer notes (including some on Cambridge colloquia). Second section is on the 'NRDC computer' and the Elliott 401.
N2	July 1949	Manuscript for <i>Pulse transformers to handle high duty-cycle pulse trains in the logical circuits of computers</i> . RO 538. Report no. 144	Green file containing hand-written draft, including diagrams. Includes note by J F Coales saying: "Very good. This is important work ..".
N2	1949 - 1953	'Scraps of Information': Harry Carpenter's miscellaneous technical notes and calculations.	Buff folder labelled 'Scraps of information'. Contents include: (a) 'General purpose computer for analysis of Director errors: a method of obtaining sine and cosine functions for use in Fourier analysis' (7 th Feb. 1949); (b) Discussion – Hersom on calculations in computers (19 th July 1949); (c) three foolscap sheets apparently showing contents of registers at each program

			step, during axis-conversion calculations (Nov. 1949); (d) 'Aligning and rounding' (typed notes and diagram, undated); (e) three circuit diagrams for standard packages, issue 3 (dates from 25/10/51 onwards) using valves CV466, initialled CEO (Charles Owen); (f) price of CADAC CRC 102 computer (May 1952);(g) 401 valve and crystal complement (list of thermionic tubes) (May 1953); (h) notes on the departure of RCR (Robbins) (March 1953);(i) 'Points by Dr M V Wilkes' – possibly consultancy advice, based on EDSAC experience – undated.
N2	1949 - 1953	Visit Reports, Elliott's Borehamwood Research Labs.	Green 'Joca' foolscap folder containing notes on visits made by Borehamwood Computing division staff to other sites. The sites/dates include: TRE (Uttley) in 1949; Bristol Aero Co. (flutter problem) in 1949; Manchester University and Ferranti in 1952 (containing interesting quote from F C Williams); Dr W B Lewis Atomic Energy Commission of Canada in 1952 (interesting Chalk River work); RRDE in 1952; Hilger & Watts in 1952; Dept of Anatomy, UCL, in 1952; D L Johnston's US trip-report in 1952 (including ACM and Whirlwind comments); BTRL in 1952; ARL in 1953; AMP Inc in 1953.
N2	May to Dec. 1950	File of notes on RO (Research Order) 306/1R: AI (Airborne Interception) Trainer.	Green file containing many hand-written technical notes. Possibly concerns Contract 6 WT/8960/CB 14 (b) between Elliotts and the Ministry of Supply for an AI Trainer. Appears to include proposals for both an analogue and a digital scheme. Involves radar and axis-conversion techniques.
N2	27 th Nov. 1952.	Presentation by H G Carpenter, in cooperation with C E Owen, at a Colloquium at the Mathematical Laboratory, University of Cambridge.	Grey/green wallet-type folder containing notes for H G C's presentation. Includes an 8-page typed Report, plus 11 very interesting photos/diagrams, entitled: <i>A review of the development of computing components at Elliott Brothers, Borehamwood, with special reference to packaged circuit units</i> by W S Elliott, H G Carpenter and C E Owen. Also includes several hand-written sheets of a paper (or talk?) entitled: <i>The development of standard logical circuits and their engineering in packaged form</i> . Relevant to the 152 computer. Also includes a hand-written list of 'Elliott Labs Computer Staff' (names and management-structure). Important.
N3	1953 - 1954	Harry Carpenter's Lab notebook number 2.	Pale green spiral-bound 'quarto-size' notebook from August 1953 to July 1954. Mentions Strachey, Devonald, Stallworthy, Gillies, etc. Covers the period when the 401 had been moved to Cambridge and, after various modifications, from thence to Rothamsted. It seems that first entry from Rothamsted is 30 th March 1954.
N3	1954 - 1958	File of correspondence between H G Carpenter and the University of Cambridge Mathematical Lab.	Grey 'Cobra' foolscap folder of letters, notices and documents, containing (amongst other things): (a) EDSAC Operating Memorandum No. 33 (cancels Operating Memorandum No. 11): <i>Operation of the EDSAC</i> (issued 19 th Jan. 1954) consisting of 19 pages; (b) Notices of Colloquia covering the period 13 th Oct. 1955 to Aug. 1957.
N3	1955 -	Folder of correspondence with	Sea green 'Cobra' file containing letters and

	1958	the Rothamsted Experimental Station, regarding the Elliott 401.	papers covering the period November 1955 to June 1958.
N3	1955	File of reports and memos produced by H G Carpenter for NRDC.	Buff "Elfaco" foolscap folder containing: (a) trip-reports, in the form of internal memos to NRDC, of visits to Mullard Research Lab., NPL, Epsilon Ltd., SRDE. (b) Digital computer production and development in the UK, a 22-page typed Report dated 9 th July 1955 which is based on visits to Manchester University, Cambridge University, Birkbeck, NPL, RAE, AERE, Ferranti, Elliott Brothers, English Electric, Leo, BTM, AEI, IBM, EMI, and many others.
N3	1958 - 1960	File of papers relevant to IBM UK.	Faded green wallet-type folder. Contains: (a) two staff organisational charts (Sept. 1959 & 1960) for IBM British Labs. (Hursley); (b) four foolscap pages of notes of a talk by Howard G Kolsky (who joined IBM from Los Alamos in 1957) on STRETCH (the IBM 7030), Sept. 1968; present was Glennie from AWRE; (c) hand-written memo from HGC to K R Barge, entitled 'British STRETCH'; (d) Emergency staff address and telephone directory.
N3	1957; 1958; 1971	File of correspondence between H G Carpenter and J F Coales.	Buff 'Cobra' foolscap folder containing: (a) Miscellaneous correspondence when Carpenter was working for TI; (b) Correspondence in connection with John Coales' Inaugural Address on his becoming president of the IEE. This inaugural address, which contains many interesting photos, is perhaps the only generally-accessible account of the motivation for, and technical details of, the MRS5 and 152 projects
N4	Nov. 1990	Correspondence between H J Carpenter and W S Elliott about the 401 computer at Cambridge between 1953 and 1954	Three hand-written letters and a retrospective transcript and notes (file * <i>Carpenter 401 at Cambridge.doc</i>) produced by SHL in 2013. Sheds light on the activities of NRDC, Ferranti, Christopher Strachey and Bill Elliott in the transfer of technology from Borehamwood to Ferranti.
N4	1990	Collection of letters, drafts and final published paper relating to the restoration of early computers at the Science Museum.	Correspondence between Bill Elliott, Tony Sale and Harry Carpenter. Includes copies of: <i>The Computer Conservation Society – machines of the 1950s restored to life in the Science Museum</i> , by W S Elliott and A E sale. Proceedings of the fifth national conference on engineering heritage, Perth, 3 rd to 5 th December 1990, pages 39 – 44. (Published by the Institution of Engineers, Australia).
N4	21 st May 1992	<i>1949 computer technology recalled: MRS 5 history and the 152 computer</i> . Text of Harry Carpenter's first talk at the Science Museum seminar – (see below).	17pages of hand-written notes, plus list of eight illustrations and five exhibits. (The talk was one of several given at an all-day seminar with the general title: <i>Elliotts and Pegasus</i>). Interesting discussion on design-criteria, CRT storage, waffle-tree multiplier, axis-conversion, data transmission, digital shaft encoder, 'jelly box' A/D converter. NB: photos and diagrams for this talk are now in Section 7, box-file R2, of the Elliott catalogue.
N4	21 st May 1992	<i>Experience with the 401 at Cambridge and Rothamsted</i> . Text of Harry Carpenter's second talk at the CCS Science Museum seminar – (see below).	Six pages of hand-written notes, plus an Overhead Projector slide (photos of the 401). (The talk was one of several given at an all-day seminar with the general title: <i>Elliotts and Pegasus</i>).

N4	21 st May 1992.	Computer Conservation Society: Science Museum Seminar on <i>Elliotts and Pegasus</i> ; papers and letters.	Buff foolscap wallet-type folder. Includes correspondence with Bill Elliott and Ed Hersom circa 1992 and discussion of wiffle-tree multiplier. Also, copy of the following paper: <i>Remote position control and indication by digital means. W S Elliott, R C Robbins, D S Evans. Read at an IEE Convention, 9th – 13th April 1956 and published in IEE Proceedings, vol. 103, part B, 1956.</i> Also, notes for the glass printed-circuit plate from the Elliott 152 computer (the glass plate was an exhibit for Harry's paper (see above).
N4	1992	Miscellaneous papers associated with the CCS Science Museum seminar.	Includes transcript of Ian Merry's talk on the development of Pegasus.
N5	1992 - 1994	Elliott 401 Restoration: file [A]. 401 Working Party.	Buff file. Letters, project-documentation, logic diagrams and circuit diagrams relevant to the Computer conservation Society's planned restoration of the Elliott 401 computer (then in the Science Museum's storage facility in South Kensington). Chris Burton was the Chairman of the 401 Working party. Besides Harry Carpenter, other relevant people include Tony Sale, Stuart Ellis, Peter Holland, Laurence Clarke, Len Hewitt, Hugh Devonald, Doron Swade etc.
N5	1992 - 1994	Elliott 401 Restoration: file [B]. 401 Working Party.	Dark green wallet-type file. See above for scope.
N5	1992 - 1994	Elliott 401 Restoration: file [C]. 401 Working Party.	Dark green 'Digby' wallet-type file. See above for scope.
N5	Nov. & Dec. 2005	Notes on the collection of Harry Carpenter's papers from storage in New Milton, by arrangement with his god-daughter Frances Morley, and their scope.	Includes CV for Harry Carpenter and SHL's preliminary listings of documents received. Includes letter from Peter Cooper Ltd., storage contractors, referencing Mrs Frances Morley and HGC's friend (executor?) Sebastian Chamberlain.
N6	25 th Feb. 1952 to Nov. 1953.	One of Andrew St Johnston's Lab notebook – the <i>Red Book</i> .	This red foolscap-sized hard-backed notebook was used by Andrew St Johnston at the Borehamwood Laboratories of Elliott Brothers (London) Ltd. It was passed (by Dina St Johnston?) to Laurence Clarke in about 2005, on the death that year of Andrew. Laurence Clarke lent the book to the SHL on 29 th June 2010. Entries are in pencil and are mostly of a technical nature, with many circuit diagrams appearing. From time to time there are notes of meetings or of visits to outside organisations. Much of the material covers the conception, design and construction of the Elliott 401 computer. Other Elliott computers mentioned include the 152 (briefly), the 153, Nicholas and the 402. See also files * <i>AndrewsRedBook.doc</i> and <i>Redbook1.jpg</i> , <i>Redbook2.jpg</i> , etc. A print-out of the first of these files is enclosed with the Lab notebook.
N6	1955 – 1956	One of Andrew St Johnston's Lab notebooks.	Grey-green covered foolscap notebook (pages pre-ruled for account-keeping). This seems to be organised in a 'double-ended' fashion – ie entries start from both ends. One end appears to be engineering notes for the Elliott 405, the other 'finance and potential customers' for the 405. Includes cost-estimates. See also an analysis of this notebook in file * <i>Booksrce5.doc</i> *
N6	22 nd April	Computer Conservation Society	The first run took place at the Physical Society

	1993	invitation to Andrew to attend the 40 th anniversary of the first public running of the Elliott 401 computer.	Exhibition of 1953, in the basement of the Post Office Block of the Science Museum. This CCS meeting took place in the Fellows' Room of the same Block. Also included is a contemporary CCS pro-forma, inviting the donation of documents for the CCS's 'Library Archive of Papers'.
N6	2001 - 2005	Andrew St Johnston's funeral oration and other correspondence with Dina.	Soft blue plastic folder. Contains much biographical information and two Christmas cards sent to SHL (with photos) from 2001 and 2003.
N6	1982	Paper ARCH:E111: papers transferred from Professor W S Elliott, March 1982. Provenance: Science Museum Archives, London.	Four-page typewritten document, listing by title all the manuals, technical reports, photographs, journals notes, circuit diagrams and drawings passed by Bill Elliott to the Science Museum Archive. Includes technical information relevant to the Elliott 401 and the Ferranti Pegasus. Pencilled annotations by SHL.
N6	1993 and 2000.	W S Elliott (1917 – 2000): three bio-data documents.	(a) Obituary in the IEE News, November 2000, page 11. (a) Three typed pages of 'Memorabilia', written by Ian Merry in July 2000. (c). One-page extract from an un-dated copy of the Catherine's College, Cambridge magazine, being a report of the CCS meeting of 22 nd April 1993 and biographical notes on W S Elliott.
N6	c. 2002 - 2006	J P Bunt (1925 – 2002): letters bio-data and an article by Bunt entitled <i>The end of the road</i> .	Letters from Monica Bunt (sister), 2006/7; biography of John written by Monica in 2006. Also, four-page typed article <i>The end of the road</i> , covering the period of change and take-overs in Elliott-Automation, English Electric and GEC (1964 – 1972). This was one of several historical reminiscences written for SHL by John. This particular one was dictated by John from his hospital bed shortly before he died and was typed up by Monica.
N6	1994 – 2007.	Biographical notes on three pioneers of Elliott-Automation's Radar Division: John Kinnear (1925 – 2007), Betty Laverick (born 1925) and Peter Mariner (1921 – 1995). Letters from John Kinnear and Betty Laverick. Also, transcript of William Asprey's 1994 interview with Laverick.	The correspondence dates from 2006/7, at which time SHL was writing the Radar chapter of <i>Moving Targets</i> . Unfortunately Peter Mariner had died several years before. The William Asprey interview, carried out for the IEEE History Center, dates from 22 nd March 1994
N6	1958 - 2007	Short bio-data notes and/or obituaries for (in alphabetical order): F S Ellis, Peter Hearne (born 1927), Ed Hersom (1921 – 2002), Edgar Otto Herzfeld (born 14/3/1909), Tony Hoare, Dina St Johnston (1930 – 2007), Coppy Laws (1916 – 2002), Ian Mackintosh (1927 – 2008), Charles Owen (1918 – 1984), Henry Pasley-Tyler (born 14/3/1909), Jack Pateman (1921 – 2004), Patrick Shackleton (1926 – 1996), Frank Yates.	Charles Edward Owen's obituary appeared in <i>The Times</i> on Saturday 2 nd June 1984. The original and a photocopy of this is included. Jack Edward Pateman's obituary appeared in <i>The Guardian</i> on 9 th September 2004. A photocopy of this is included.
N6	1995	Three audio tape cassettes, being recordings of interviews	Tape 1, sides 1 and 2: Interview of John Coales. Rough notes of this recording, made by SHL, are

		conducted by Laurence Clarke in the spring of 1995.	in file <i>Coales notes August 2012.doc</i> – a print-out of which is included with the cassettes. Tape 2: interview of John Turner. Tape 3, side 1: firstly, John Coales, then Henry Pasley-Tyler. Tape 3, side 2: Pasley Tyler.
--	--	---	---