

Catalogue K, for box-files K1 – K10.

Scope: Previously-classified files and letters from the Borehamwood Labs of Elliott Brothers (London) Ltd.; OEDIPUS (the 311 computer); Donald Duck; the 153 (DF, direction-finding) computer; related GCHQ equipment and correspondence with former GCHQ people; the Visitors Books from the Borehamwood Laboratories (October 1946 – April 1957). The items in catalogue K variously cover the period 1946 – 2006.

Cat. No.	Date	Description	Comment
K1	July 1946 – Sept. 1953	Secret Letters register OA, 1 to 736	Maroon foolscap stiff-backed ledger. At one end are the incoming letters and documents covering the period 27 th July 1946 to 25 th September 1953. The format of entries varies but is generally: <letter number> <date received> <date of letter> <reference> <from> <subject> <signed out> <signed in>. At the other end of the ledger are outgoing letters from 20 th January 1947 to 21 st July 1952. The format of entries varies but is generally: <date> <reference> <addressee> <subject> <file>.
K1	Feb. 1947 – Sept. 1953	Secret Reports register OB, 1 to 700.	Mottled foolscap stiff-backed ledger. At one end are the incoming reports covering the period 28 th February 1947 to 26 th September 1953. At the other end, a 'signing-in, signing-out' borrowing record is set out.
K2	1947 to 1953.	Register OC: signatures.	Red foolscap stiff-backed ledger, being a 'borrowing record' for staff access to classified reports. The format of each entry is approximately: <date> <report title> <signature> <returned> <check>. To start with, entries in this ledger were copies of those recorded in register OB. Then from 1950 to May 1953 borrowings/signatures were recorded just in this ledger.
K2	1947 to 1954	Register OF: various letters and borrowings.	Blue foolscap stiff-backed ledger. Started as the successor to Register OD. Contains letters LR484 to LR570. Also contains a transcribing of entries in Registers OB and OE which, by 1957/8 had by then become "rather dilapidated".
K2	1949 to 1957	Official Secrets Acts: List of staff signatures.	Mottled foolscap stiff-backed ledger. Contains names, signatures and dates of Borehamwood staff who have assented to the following statement: "I the undersigned do hereby declare that I have read and understood the provisions of the Official Secrets Acts 1911 – 1939".
K3	1950 – 1956	File of secret and confidential correspondence relating to the security clearance of senior staff of Elliott Brothers	Dark green 'Joka' file, labelled on the spine as: "From Cdr H P-T's Lewisham Files, 1950 – 1956". Relates to work on government contracts, and in particular

		(London) Ltd. For correspondence relating to the removal of these and similar documents from Borehamwood in 2002/2003, see under Jim Bennett (Oxford University) in box-file M3 of Elliott catalogue section 6.	Admiralty contracts, that contain a Clause 59 provision about secrecy. Correspondence includes a list (dated 5 th October 1950) of all such existing contracts. Here are some of the names mentioned in the correspondence: Leon Bagrit, Richard (Dickie) Pollard, Henry Pasley-Tyler, Edgar Herzfeld. In the back of the file is a collection of photocopies of many of these letters, made by SHL on 12 th December 2002.
K3	1948, 1953, 1964, 1968	Correspondence relating to security matters.	Photocopies of four letters, made by SHL at Borehamwood on 17 th February 2003. Includes instructions that "all new appointments as far down as the rank of foreman have to be vetted by the Admiralty for Security purposes". Mentions the following people: W A P Wykeham, G W Mott, I C Makintyre,
K3	Aug. 2001 – Feb. 2002	Correspondence between SHL and defence-related officialdom (MOD, DSTL, Naval Historical Branch, QINETIC)	Includes letters from Carl Nicholson (Ministry of Defence); Capt. Christopher Page (Ministry of Defence); John Harding (MOD), Marion Anderson
K3	Oct. 2001 to Nov. 2002	Correspondence (letters and e-mails) between SHL and Gill Bennett, Chief Historian, Foreign & Commonwealth Office, and her colleague at the FCO Dr Martin Longden.	Includes the undated, unsigned, three-paragraph statement headed 'Elliott Bros contracts for GCHQ in the 1950s'. This statement paved the way for subsequent enquiries by SHL and the permission to contact certain former Elliott and GCHQ employees. These people were released from some of their obligations under the Official Secrets Act, in order to talk to SHL about OEDIPUS and the DF computer. (For example, see the letter to H G Carpenter below)
K3	29 th Nov. 2001	Letter to H G Carpenter from GCHQ, giving release from his Official Secrets Act undertakings.	Relates to the writing of the book <i>Moving Targets</i> and SHL's research into Oedipus, the 311 project and the 153 computer (aka the DF computer).
K3	Aug. & Sept. 2001	Correspondence with H W Pout, enquiring about MOD projects and in particular MRS5, etc.	Apart from one or two follow-up telephone conversations, contact with H W Pout did not yield much information. (H W Pout was quite old at the time).
K3	12 th April 2002	Letter and enclosures sent to SHL by Peter Freeman (GCHQ). Includes copies of original Borehamwood notes on the 311 project and information on the Ferranti Mark I*.	Green folder containing an 8-page detailed letter with many enclosures. Contains important photocopies of: (a) Proposed 311 Plan, dated 25/7/1951. (b). Several (undated pages from Borehamwood notebook(s). These show logic diagrams of 'input reader', 'parallel adder', 'clock' and 'drum; circuits of a multivibrator and part of a diode fixed store ('dictionary'); notes on tasks for Borehamwood engineers identified by initials (eg Carpenter to be project leader). Also, details on the OEDIPUS drum contract with Ferrantis. Also, the following information on the Ferranti Mark I* computer that was delivered to GCHQ in Sept. 1953: (a) initial discussions and

			contract details; (b) document giving instruction set; (c) diagrams of the console and layout of functional units within the logic cabinets. Also, typed attendance list at the Inaugural conference held at the University of Manchester in July 1951. Also, a copy of all of the above.
K3	2 nd Dec. 2002	Letter and enclosures sent to SHL by Peter Freeman (GCHQ) concerning OEDIPUS.	Includes copies of an original GCHQ block schematic system diagram of OEDIPUS (X Dept. drawing no. B6099, declassified on 9/9/2002) and a copy of a 34-page A4 illustrated printed booklet entitled <i>How GCHQ came to Cheltenham</i> , by Peter Freeman, written in 2002.
K3	20 th Sept. 2004	Letter and enclosures sent to SHL by Peter Freeman (GCHQ) concerning OEDIPUS and other GCHQ <i>Rapid Analytical Machines</i> of the 1950s.	Brief descriptions of COLOSSUS, ROBINSON, JOHNSON, OEDIPUS and COLOROB. Photocopies of three photos of COLOROB.
K3	2002 - 2005	Other correspondence to/from Peter Freeman (GCHQ).	Mostly consists of Peter's comments on drafts of SHL's IEEE Annals paper on OEDIPUS.
K4	July 2002 to April 2003	Correspondence between SHL and A D V (Tony) Ridlington (ex-GCHQ).	Note especially the 10-page hand-written letter of 16 th July 2002, which gives practical details and sketch diagrams of OEDIPUS and background information on people such as J E (Johnny) Cane, Mr Leach, George Brooks, Brian Pollard, etc.
K4	2001 and 2002	Correspondence between SHL and H G (Harry) Carpenter	Three letters from SHL. Note that most communication with Harry Carpenter was done by telephone – see * file <i>pcarp.doc</i> for notes of several long 'phone conversations.
K4	April 2002	Correspondence between SHL and John E Thompson.	John Thompson worked for Ferranti Ltd. on the magnetic drum store for OEDIPUS. To maintain security, the drum project at Ferranti was known as DEMOS. John also comments about the Ferranti Mark I* computer delivered in the autumn of 1953 to GCHQ.
K4	21 st Nov. 2004	Correspondence between SHL and H J Cane.	Includes two pages of typed notes, giving details of: (a) the two remaining post-war COLOSSUS machines, their modifications and their dates of service in the 1950s; (b) ROBINSON, new ROBS and a SUPER ROB (late 1950s); (c) COLOROB and REVOLVER; (d) brief mention of JOHNSON and OEDIPUS.
K4	2001 to 2004	Correspondence between SHL and D C (Don) Horwood (GCHQ), with enclosed technical documents on DONALD DUCK. Also, note of 'phone conversation with Don on 18 th Feb. 2004.	Note especially the 5-page typed letter plus enclosures of 7 th April 2004 including: (a) 'The birth (or hatching) of Donald Duck' (4 pages incl. photos); (b) Donald duck random number generator - circuit operation (3 pages). Deals with Random Number generation, Donald Duck and the High Speed checker. Lots of background history of GC&CS, Comsec, Sigint, GCHQ, Cypher Policy Board, Dollis Hill, ROCKEX II, etc. The five enclosed documents include a patent assignment and extracts

			from Minutes of a 19 th Sept. 1945 meeting of the Cypher policy Board – (papers CAB 21/2522). The Donald Duck papers include photos and Don Horwood says that he has the originals. Mentions Oakley and Benhall sites at Cheltenham, Geoff Timms, Whirligig (two German T52e cipher machines connected back-to-back), mods to the Creed 7TR tape perforator for Donald Duck, use of EF36 valves, the 5-UCO cipher machines, etc.
K4	29 th April 2004	Letter to SHL from Harry Fensom, plus notes of 'phone conversation.	Contains a seven-page typed list of lots of references on code-breaking, Bletchley Park and related security matters. Harry Fensom worked at Dollis Hill/BP on Colossus. Also, one A4 printed sheet of 'phone conversation with Harry Fensom on 27 th April 2004, giving more historical background to various Bletchley Park machines and to the GPO's work on random number generators and ERNIE..
K4	28 th June 2004	Correspondence between SHL and Joy (Aylard?) about GCHQ Eastcote.	Memoirs of a WREN serving at Eastcote during the war. Deals with Bombe operation. File contains four colour photos of Eastcote huts as they appeared in June 2004, together with a photocopy of an A to Z street-map showing the location of the Eastcote establishment. Also, sketch plan of the huts, giving the hut-names and the contents of each one.
K4	Sept. 2004	E-mail exchanges between SHL and Brian Oakley and Tony Sale, regarding Tunny, Aquarius, etc., plus extracts from an original war-time report.	(a). Photocopy of 10 pages of The National Archives file HW 25/4: General report on Tunny, Vol. 1, June 1 st 1941 to June 30 th 1945, being: "an account of the methods used for breaking German teleprinter cipher messages". (b) e-mail exchanges with Brian and Tony on HW 25/4, with particular reference to AQUARIUS. Includes photocopied photos of AQUARIUS.
K4	9 th July 1945	Disposal of Fish Machinery. Letter from J W J Herivel to Director. Also, Brian Oakley's January 2005 comments on this.	Photocopy of a letter in file HW62/6: GC&CS miscellaneous papers: equipment; machinery. Vol. III, 2 nd Jan. 1944 to 14 th August 1945. In The National Archives, Kew. Shows that the last two Colossi (moved to Eastcote) were numbers 9 and 10.
K4	Nov. 2002	SHL's diagrams for OEDIPUS paper, as at Nov. 2002.	Colour print-out of Powerpoint slides.
K4	June and Aug. 2005	Referees' technical comments on SHL's OEDIPUS paper, and answers to the referees.	E-mails and file print-out. These comments should be read in conjunction with Ralph Erskine's later comments, as given below.
K4	June 2006.	In the footsteps of Colossus: a description of Oedipus. Simon Lavington. IEEE Annals of the History of Computing, vol. 28 No. 2, pages44 – 55.	The complete issue is given, to show how (inevitably) SHL's OEDIPUS paper was overshadowed by the special papers on ENIAC.
K4	2006	E-mailed correspondence between SHL and: Ralph Erskine, Philip Marks and Frode Weierud.	Comments on the possible use of OEDIPUS for the Venona messages. Includes extracts from the Venona Monographs.

K4	Oct. 2001	Codebreaking with IBM machines in World War II. Stephen Budiansky. Cryptologia vo. XXV no. 4, pages 241 – 255.	Reprint. (This paper referred to by Frode – see above).
K4	7 th March 2008.	E-mail and enclosure from Ralph Erskine, regarding random numbers.	Includes 'Preliminary notes of Rockex II' (circa 1945). Mentions Hanslope, key-tape production, Bletchley Park, etc.
K4	Jan. 1980	Computer advances pioneered by cryptologic organizations. Samuel S Snyder. Annals of the History of computing, vol. 2, no. 1, pages 60 – 70.	Photocopy.
K4	July 1983	Colossus Design. T H Flowers. Annals of the History of Computing, vol. 5, no. 3, pages ??? – 252.	Photocopy of extracts.
K4	July 1993	The M209 cipher machine: a war of words. R F Churchhouse. IEE Review, pages 173 – 175.	A machine used by the US Army during World War II.
K4	23 rd May 2002	Beyond Colossus – more BP WWII machines for aiding deciphering (Rapid Analytical Machinery). Brian Oakley and Tony Sale.	SHL's notes taken at this CCS seminar, which was held at the Science Museum, London. Mentions AQUARIUS, amongst other things.
K4	1 st June 2004	The Colossus Mk 2 commemoration.	Reception, talk and video at the Science Museum, South Kensington. Notes and list of attendees 9which includes 29 BP veterans).
K4	June 2004	Colossus –the world's first electronic digital computer. Charles Coultas. Electronics World, pages 16 – 19.	Article, with photos.
K4	26 th Jan. 2005	E-mail exchange between SHL and Paul Gannon.	Paul Gannon (an 'investigative journalist') was, at this time, researching a book that mentions COLOSSUS.
K4	29 th July 1951	Design proposals for D/F Calculator. B Bambrough. Report no. 246.	Extracts: photocopy of approx. 25 pages. This Report describes the mathematics of the DF calculations and hence the overall physical requirements of a computer to perform the necessary arithmetic at high speed.
K4	1 st Jan. 1956	The 153 computer volume 1. Report 371A. J P Bunt.	Extracts: photocopy of approx. 40 pages. This is the first of three volumes describing the Elliott 153 computer, aka the DF (Direction-finding) computer. Volume 2 contains all the illustrations and diagrams. Volume 3 gives a complete set of test programs.
K4	1 st Jan. 1956	The 153 computer volume 2. Report 371B. J P Bunt.	Extracts: photocopy of approx. 30 pages of diagrams and photos.
K4	Jan. and May 2002	Correspondence between SHL and John Bunt	Answers questions about the Elliott 153. Also, gives a little history of the Elliott 900 series, esp the 920. Mentions R M (Mike) Cochrane, Peter Lawrence, Jim Barrow.
K4	2002 and 2003	Description of the 153 computer. Simon Lavington	11 pages of A4 print-out of a 'first draft', from file * 153.doc
K4	c. 2003	Graph of visits of L H F	SHL's notes on the Borehamwood

		Nicholls (ARL) to Borehamwood, and other 153 notes.	background to the 153 project.
K4	Nov. 2006.	The hidden geography of transnational surveillance. D F J Wood. Ph. D. thesis, University of Newcastle upon Tyne.	Excerpts from Chapters 4 and 5 of Wood's Ph.D. thesis, relevant to Irton Moor. These were printed in Nov. 2006 from this website: www.staff.ncl.ac.uk/d.f.j.wood/thesis_files/5-7.pdf NB – this site can no longer be found, as at April 2013.
K4	Nov. 2006	Long e-mail from Dina St Johnston, dated 20 th Nov. 2006; also notes of a 'phone conversation with Dina on 28 th Nov. 2006.	The e-mail gives fascinating details of life spent working on the Elliott 153 at Scarborough with John Bunt. Also mentions Leslie Nicholls, Jeff Ballard, Johnny Cane, Albert Wakefield, Andrew St Johnston, and Beryl Kitz. NB: at that time, Dina was Dina Vaughan. She married Andrew St Johnston four years later. The 'phone conversation gives more information about: (a) Irton Moor, near Scarborough, as the location for the Elliott 153 computer; Albert J Wakefield; her own background.
K4	24 th Nov. 2009	Letter to SHL from R J Henville regarding the Elliott 153 at Irton Moor.	This three-page typed letter and diagram outlines the career of R J Henville from 1949, focussing on his time at Irton Moor from 1959 to 1964 when he was a maintenance engineer. He describes the physical and electronic characteristics of the 153 and its reliability. He gives a sketch diagram of the layout of the computer room.
K5	Oct. 1946 – March 1947	First (temporary) Visitors Book.	This first (temporary) Visitors Book for the Borehamwood Labs covers the period 4/10/46 – 36/3/47. It is a standard foolscap notebook. This book, and the other Visitors Books described below, were removed by SHL from the Borehamwood Labs, with permission, on 28 th August 2002.
K5	March 1947 – Oct 1949	Second Visitors Book.	This book, and all subsequent books, are approximately quarto size, specially ruled and robustly bound. They typically measure 26cms high by 21 cms deep by 4 cms thick. Each entry is spread over a double page, with columns ruled to give: <date>, <name in full>, <address in full>, <nationality>, <company represented>, <signature>, <nature of business>, <interviewed by>. (The last column gives the name of the Borehamwood person receiving the visitor). Each book has between about 120 to 140 full (double-width) pages and there are about 24 entries per full page.
K6	Oct. 1949 – Jan. 1951	Third Visitors Book	
K6	Jan. 1951 – March 1952	Fourth Visitors Book	
K7	March 1952 – April 1953	Fifth Visitors Book	
K7	April 1953 – March 1954	Sixth Visitors Book	
K8	March 1954	Seventh Visitors Book	

	– Feb 1955		
K8	Feb 1955 – Sept. 1955	Eighth Visitors Book	
K9	Sept 1955 – May 1956	Ninth Visitors Book	
K10	May 1956 – Feb.1957	Tenth Visitors Book	
K10	Jan 1956 – Apr 1957	Eleventh Visitors Book. (Computing Division)	This book has <i>Computing Division</i> written on the inside page, whereas all the other books seem to refer to the entire Borehamwood Labs site (all Divisions).