

**Catalogue P, for box-files P1 – P2.**

## Scope:

- (a). Lists of patent applications relevant to early computer developments, especially those connected with Elliott-Automation and associated companies and individuals, 1936 - 1968.
- (b). Contractual arrangements between Elliotts and NRDC, especially in connection with the design, construction and subsequent use of the 400 series computers (1950 – 1956) and the ARCH developments (1962).

The first set of information comes from the regular listings published by the Patent Office, entitled *Index to Names of Applicants in Connection with Published Complete Specifications*. The volumes of listings appeared periodically, each covering either a group of 20,000 patents or, from 1965, a group of 25,000 patents. The range of dates covered by each volume varied. This was especially true of the war years, where shortage of paper held up publication and the back-log was spread over several post-war publications. From mid-1965 onwards, the precise range of dates covered by each volume is given. The listing below concentrate on the period 1937 – 1968.

<b>Cat. No.</b>	<b>Date</b>	<b>Description</b>	<b>Comment</b>
P1	1937 to late 1950s and some to 1968.	Index to names of applicants In connection with published complete specifications. The Patent Office.	Green wallet containing photocopies [A] of selected pages from the Relevant volumes of the Patent Office publications, choosing only pages featuring the key-words: Ferranti, Elliott, B & P Swift, Ministry of Supply (MOS), Coales, NRDC, etc. About 25 pages in all, covering Patent numbers 440,001 to 700,000.
P1	Early 1950s	Index to names of applicants In connection with published complete specifications. The Patent Office.	Photocopies [B] of selected pages from the Relevant volumes of the Patent Office publications, choosing only pages featuring the key-words: Ferranti, Elliott, B & P Swift, Ministry of Supply (MOS), Coales, NRDC, etc. About 25 pages in all, covering Patent numbers 700,001 to 1,125,000. (Green wallet)
P1	1936	464,832	L Bagrit. B & P Swift – scales and weighing machines. Single-sheet photocopy of the front page of a Patent Specification
P1	1946	593,592	H F Latham. B & P Swift – cutting machines. single-sheet photocopy of the front page of a Patent Specification
P1	1947	650,103	L L Ross – gears for machine mixers. Note that this, and the following 24 catalogue entries are all single-sheet photocopies of the front page of a Patent Specification. They all have in common the company name of Elliott Brothers (London) Ltd. Note that this, and the following 24 catalogue entries, are stored together in a green wallet.
P1	1949	659,619	L Bagrit – sheet metal
P1	1949	667,222	R J Redding
P1	1950	693,116	H G Carpenter – pulse circuits
P1	1951	700,868	C A Cochrane

P1	1949	707,371	D S Evans – digits and words
P1	1949	709, 331	W S Elliott
P1	1949	712,743	C A Laws
P1	1952	714,627	R Millership – magnetostrictive delay line
P1	1949	716,781	W S Elliott and C A Laws – multiplier
P1	1952	716,939	P F Mariner and C A Cochrane – radar aerial
P1	1953	730,672	C E Owen – delay circuits
P1	1954	736,557	C A Laws – controlling a CRT display
P1	1950	745,891	J E Barrow
P1	1950	747,711	W S Elliott – adder
P1	1950	747,712	J E Barrow
P1	1951	780,005	R Millership – delay lines
P1	1952	781,057	W P Melling
P1	1952	784,127	R Millership and C E Owen – jukebox
P1	1955	791,293	N T J Bevan
P1	1955	793,793	N T J Bevan
P1	1955	806,683	R Millership – waveguides
P1	1957	825,243	S E Hersom
P1	1956	854,261	J Last – lineprinter
P1	1956	862,364	A G W Edmunds – nickel delay line
P1	1956	864,304	J P Bunt – transistor-core shift register
P1	1958	891,851	S L H Clarke – floating point
P1	1961	959209	A St Johnston – tags and storage
P1	1960	975,803	L H Hammond and M G Smith
P1	1960	1,001,021	S L H Clarke
P1	1960	1,004,451	H D Hawkes
P1	1964	1,084,133	D E Cronin
P1	1964	1,094,311	D A Linkens and G C A Talbot
P1	1963	1,110,814	C I Cowan
P1	1964	1, 122, 808	C Paradine
P1	1965	1,433,078 (Brevet d'invention)	In French
P1	1948	707,212	J F Coales, N D Hill, S E Hersom (all EBRL) and J Buckingham (Admiralty) – optical coding disc. Single-sheet photocopy of the front page of a Patent Specification
P1	1946 – Mid-1950s	Single-sheet copies of the front pages of about 30 Patent Specifications.	Red plastic sleeve containing: (a) Patents from the Ministry of Supply, relating to computer technology; (b) MOS patents later taken over by NRDC; (c) NRDC patents relating to computers; (d) Patents originating from Ferranti Ltd.
P1	22 <sup>nd</sup> June 1949	Provisional patent specification 16588/49	The B-line patent (index registers), MU29. Williams, Newman, Kilburn and Tootill.
P2	Aug. 1954	NRDC: Computer Pool Catalogue. NRDC Report number COM/FSE/3	58-page duplicated typed foolscap Report. Gives brief specifications for 149 computer patents, invented by UK individuals and/or organisations and “held and made by or assigned to the Corporation”. Originating organisations include Manchester University, NPL, Ferranti, Elliott Bros., TRE, RAE, MOS, GPO and NRDC itself. The report ends with a two-page analysis by type. Of the many well-known and not-so-well-known pioneers mentioned as inventors, A M Turing’s name occurs twice (on patent numbers NPL 58 and NPL 82). The B-line patent is MU29, though the Report only mentions F C Williams and T Kilburn as the inventors.
P2	April	NRDC: computer inventions: first	Lists many of the Manchester University, NPL,

	1955	supplement.	TRE, Ferranti and Admiralty computer patents administered by NRDC, together with brief specifications of several more patents 'recently acquired'. Copied from NAHC file NRD/86/2/3
P2	Nov. 1958.	NRDC/IBM agreement.	IBM paid NRDC \$275,000 for the use of computer patents, many of them emanating from Manchester University. Document copied from NAHC file NRD/86/2/3.
P2	1993.	NRDC's role in the early British computer industry. John Crawley.	Print-out of four-page article in Resurrection, issue 8, winter 1993, pages 25 – 32.
P2	2003	Check-list of NRDC documents photocopied in July 2003 at the National Archive for the History of Computing (NAHC), housed in the John Rylands Library, University of Manchester.	See file <i>ENACyp1.doc</i> for this list, which gives a one-sentence summary of each of the individual documents that have been photocopied.
P2	25 <sup>th</sup> July 1953	Letter from Harry Carpenter to John Crawley	Two-page photocopy of hand-written letter, concerning the Elliott 401 at Cambridge. NAHC file NRD/86/15/7.
P2	29 <sup>th</sup> March 1954	Letter from Maurice Wilkes to Lord Halsbury.	Concerns the departure of the 401 from Cambridge. NAHC file NRD/86/15/9
P2	1950 to 1952	First contacts between NRDC and Borehamwood.	Green plastic folder containing photocopies of documents from NAHC file NRD/86/13/1. These concern the first contacts between NRDC and Borehamwood. Mentions Coales, Bagrit, Strachey,
P2	c. 1952	Comments of F C Williams, M V Wilkes, etc. on EBRL's proposed computer design as contained in EBRL Report 267 dated 30/1/52: <i>A general purpose calculating machine for the National Research Development Corporation.</i>	Clear plastic sleeve containing approx. six documents, copied from NAHC file 86/13/2
P2	Autumn 1953	Contractual position regarding the 401 computer; the stormy meeting that revealed tensions between W S Elliott and Borehamwood.	Approx. six documents, copied from NAHC file 86/13/4. Includes the Minutes of a meeting held on 5/11/53 to discuss the 401's costs and deficiencies, together with a verbatim note of this stormy meeting.
P2	c. 1953	Relationship between NRDC and Elliotts by the end of 1953	Photocopies of three documents from NAHC file NRD/86/???. The documents contain notes on important meetings between NRDC and EBRL staff, after 'Dr Ross' hand-delivered plan'. They also indicate the origins of Borehamwood's interests in commercial data-processing.
P2	1953 to 1955	Applications of the 401 & 402 for aircraft flutter calculations	Photocopies of approx. 12 documents from NAHC file NRD/86/15/2. These concern applications of the 401 & 402 for aircraft flutter calculations – esp. for De Havilland, Hawker & Bristol Aircraft, & Gillies & Hunt.
P2	c. 1953	Documents relating to the 401's enhancements and Borehamwood's hopes for the future of digital computers.	Approx. seven letters, Minutes and memos, copied from NAHC file NDR/86/13/6 (?). Includes items relevant to the post-Borehamwood future of the 401 and also of W S Elliott and H G Carpenter.
P2	1953 - 1955	Documents relating to the wider implications of NRDC's contracts and dealings with Borehamwood.	Approx. nine Minutes and memos, copied from NAHC file NDR/86/13/8. Mentions Elliott 402, 403 and 153 computers, & 'Eccles' and the plans for

			the Ferranti FPC1 (which became Pegasus). Also includes an important Aide Memoire dated 27/7/65: retrospective 401 project history.
P2	c. 1956	Documents relating to NRDC's attempts to recover some development & royalty charges from EBRL.	Approx. nine letters, Minutes and memos, copied from NAHC file NDR/86/13/6. Many of the letters are between Bagrit and Halsbury.
P2	c. 1957	The Elliott 405 and the Siemens Ediswan project at Woolwich & Chris Strachey.	Photocopies of two documents from NAHC file NRD/86/2/2. Paper no. 151 (undated): Siemens project: initial spec. & conditions. Paper no. 156, dated 16/1/58: Siemens project financial estimates. Chris Strachey.
P2	2 <sup>nd</sup> Dec. 1958	Memorandum: Siemens Ediswan 405.	Photocopy of a three-page typed internal NRDC memo from Chris Strachey. Copied from NAHC file NRD/86/11/1.
P2	c. 1962	NRDC's sponsorship of the ARCH developments.	Four documents, copied from NAHC file 86/35/3. Includes two papers presented by Elliotts at the Press Conference to launch the ARCH concept, at the Savoy Hotel, London, on 7 <sup>th</sup> May 1962.
P2	1964	NRDC: Research development production exhibition.	A5-size booklet, grey covers. Includes retrospective history of NRDC's computer projects, etc. Approx. 22 pages.
P2	c. 1964	NRDC – an introduction.	Seven-page A5-size booklet; grey-green lettering on the cover.