Delivery lists and applications of Elliott 400 Series computers.

The rightmost column in the lists below shows brief details of the initial applications carried out at each computer installation. Where more details of an installation and its applications are available, a reference is made to a footnote or to the list of source documents given in section E2X5. For example, [5] indicates reference number 5 in section E2X5.

Note that there is some uncertainly about customers and dates. The information given here is a best-guess compilation of data culled from five sources, cited as references [1 to 5] in section E2X5. Although [1] and [2] are original Elliott-Automation documents, minor inconsistencies have come to light when their contents have been cross-checked in detail. Another source of potential confusion is the transfer of computers between sites when one organisation sells (or donates) a machine to another organisation. The upgrading of a site's installation by the substitution of a larger machine can also cause apparent discrepancies in the records.

Elliott 401.

This computer, developed at the Borehamwood Laboratory of Elliott Brothers (London) Ltd. under a contract from the National Research Development Corporation, first worked in March 1953. It was exhibited at the Physical Society Exhibition in London in April 1953. It then spent the period from June 1953 to March 1954 in the University of Cambridge, where modifications and enhancements were carried out by Harry Carpenter and Chris Strachey. Following this, it was moved to Rothamsted Experimental Station near Harpenden, Herts, where it was used for agricultural research statistics until 1965. The Elliott 401 was donated to the Science Museum, South Kensington, where it is now in storage awaiting a Computer Conservation Society project to restore it to working order.

Date	*Customer*	*Application and notes.*
Mar 1954	Agricultural Research Council, Rothamsted	Agricultural research statistics; also scientific and engineering computations by other organisations. Finally switched off in 1965. See [6].

Elliott 402.

This computer was the re-engineered production version of the 401. Two of the delivered machines had additional hardware for implementing floating-point arithmetic; these computers were labelled 402F. The rest of the delivered machines were either known simply as '402' or as '402E'. It is believed that ten Elliott 402 computers were built. The following list represents a best guess of their initial destinations. It is known that, by the early 1960s, at least one second-hand 402E had found its way to the Agricultural Research Council at Rothamsted. See [5] for more details. An Elliott 402 cost about £27,000 in 1955.

Date	*Model*	*Customer*	*Application and notes*
Apr 1955	402 E	Institut Blaise Pascal, Paris, France	Research and numerical analysis
Oct 1955	402 E	Army Operational Research Group, West Byfleet	Operational research
July 1956	402 E	Imperial Chemical Industries Ltd., Co Durham	Operational research; molecular structures
May 1957	402 E	Rank, Taylor and Hobson Ltd., Leicester	Optical lens systems design
Apr 1957	402 E	Bomber Command, RAF High Wycombe	Operational research
Jan 1958	402 E	Elliott Bros, Borehamwood	Computing service
Feb 1958	402 F	Ernst Leitz GmbH, Wetzlar, W Germany	Optical lens systems design
Aug 1958	402 E	Rotol Propellers Ltd., Gloucester	Propeller engineering design
Sep 1958	402 E	British Railways, Research Dept., Derby	Research and statistics
?? 1959	402 F	British Railways at Wolverton, Bedfordshire	Engineering research

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Elliott 403.

This computer, also known as WREDAC (Weapons Research Establishment Digital Automatic Computer) was a one-off Borehamwood design which, whilst employing 400-series hardware and logic elements, was not software-compatible with other computers in the 400 series. WREDAC had a special input/output unit called WREDOC, delivered in the autumn of 1956 and designed to handle the huge amounts of bulk data that arose from guided weapons testing. WREDOC had almost as many logic cabinets (7) as WREDAC (9).

Date	*Customer*	*Application and notes.*
Sept 1955	Weapons Research Establishment, Salisbury, South Australia.	Analysis of Woomera guided missile trials and research [7]. See also E2Extra403.

Elliott 405.

This computer was Elliott's first serious product to enter the world of commercial and business data processing (as opposed to scientific and engineering applications). By 1956 the Elliott company had established a marketing arrangement with the British arm of the National Cash Register company of Ohio, USA. NCR Ltd. became responsible for selling Elliott 405 computers to businesses. Hence the machine was often marketed as the National-Elliott 405. In 1957 an Elliott 405 cost between £50,000 and £125,000, depending upon configuration, with an average installation costing approximately £85,000 [5].

Date	*Customer*	*Application and notes.*
Jul 1956	Elliott Brothers (London) Ltd. Computing Services Division, Borehamwood.	Computing service bureau. (By June 1964 this had become a standby computer in the Computer Maintenance Division).
Nov 1956	National Cash Register Co. Ltd., Marylebone Road, London, NW1	Demonstration and computing service No. 1.
Feb 1957	City & County of Norwich, City Treasurer's Department	Final reminders for rates, payment of accounts, expenditure analysis, water rates, income costing and loans; eventually also wages and salaries. (Replaced by a larger 405 in Oct 1961). [8].

Sep 1957	National Gas Turbine Establishment, Pystock, Farnborough, Hants	On-line data reduction in engine testing.
Nov 1957	Unilever Ltd., London	Wide variety of experimental work including linear programming. [9]
Dec 1957	Board of Trade, Census Office, Eastcote, Pinner, Middx.	Census analysis. (Small computer?)
Feb 1958	British Insulated Callender's Cables London, W12	Railway electrification research & design work, payroll, costing.
Feb 1958	Littlewoods Mail Order Stores Ltd. Liverpool 23	Mail order provisioning, inventory control. [10].
Apr 1958	Siemens (Woolwich) Ltd., London, SE18. (part of AEI)	Production Planning and control, in association with NRDC. Removed when AEI took over Siemens' Woolwich enterprise. This machine then went in February 1962 to the Control Group, Engineering Department, University of Cambridge. Bits of this machine then went to Forest Grammar School, Winnersh, Berks, in August 1966 where it was called *Nellie.* See [16] and see also E2Extra405.
May 1958	Newton Chambers & Co Ltd., Sheffield.	Payroll and stock control.
Aug 1958	Albert E. Reed & Co. Ltd., Alyesford, Kent	Stores ledger control & accounting, payroll
Oct 1958	North Western Gas Board, Manchester	Payroll and gas billing
Oct 1958	Legal & General Assurance Soc. Ltd., Kingswood, Surrey	Payroll, maintaining and processing policy records of group life and pension schemes.
Nov 1958	National Cash Register Co. Ltd., Frankfurt, Main, Germany	Demonstration and computing service, civil and constructional engineering calculations.
Dec 1958	General Post Office, London	Payroll of 122,000 engineering, postal, telephone, telegraph and office staff in London area (more than £10 m pa); statistics.
Jan 1959	Joseph Lucas (Sales & Service) Ltd., Birmingham	Sales statistics, order scheduling.
Jan 1959	National Cash Register Co. Ltd., (National-Elliott Computing Service No. 2), Neasden, London.	Demonstration and computing service, No. 2
Mar 1959	Reckitt & Sons Ltd., Hull	Order handling, invoicing; sales ledger, sales statistics, depot stock records.
Apr 1959	National Cash Register Co. Ltd., (National-Elliott Computing Service No. 3), Neasden, London	Demonstration, training and computing service, number 3.
May 1959	Courtaulds Ltd., Coventry	Invoicing, sales ledger, sales statistics; payroll; stores stock control maintenance. (This machine was replaced by a larger one in Sept 1960 – see entry below)
Aug 1959	British Railways, Midland Region, Wolverton, Bucks.	Payroll, stores accounting, labour and material Analysis. See Note (1) below.
Sep 1959	Crosse & Blackwell (Holdings) Ltd. London, SE1	Invoicing, stock control & sales statistics. In 1965 or 1966 this machine was given to Forest Grammar School, Winersh, Berkshire – see [16].
Sep 1959	General Post Office, London	(Same as for machine installed Dec 1958)
Oct 1959	Elliott Brothers (London) Ltd. Computing Services Division, Borehamwood, Herts.	Computing service bureau; payroll; stock control
Nov 1959	National Cash Register Co. Ltd., Barrack St., Sydney, Australia.	Demonstration and computing service. After 1962 this machine was acquired by the Radio Frequency & Microwave Section of the National Standards Lab. (part of CSIRO). Then in 1970 this machine was donated to the

		Powerhouse Museum, Sydney, where parts of it are on display.
Dec 1959	Sumitomo Bank, Osaka, Japan	Deposit accounts, discounting of bills of Exchange, controlling variable-term loans.
Jan 1960	Associated British Picture Corporation, London	Payroll, theatre statistics, cinema costing
Sep 1960	Courtaulds Ltd., Coventry	(Replacing the machine installed May 1959 – see above)
Dec 1960	National Cash Register Co. Ltd., (National-Elliott Computing Service No. 4), Neasden, London	Computing service number 4. (Model 405M). This may have been the only 405M to have been delivered. Its principal difference from previous models was that it had two sets of delay line storage, giving a working store of 1024 words instead of 512.
May 1961	North Western Gas Board Altrincham, Cheshire	Payroll & gas billing
Jun 1961	Newton Chambers & Co. Ltd., Sheffield	Payroll & stock control
Oct 1961	City & County of Norwich,	(Replacing the machine installed in Feb. 1957 – see above).
Apr 1962	Snowy Mountains Hydro-Electric Authority, Australia.	Accounting

Note (1). This BR installation is not explicitly recorded in [2]. However, the stated overall total of 405 installations in [2] does include an extra one which could well be the BR installation. Also, *British Transport Commission (London Midland Railway)* is mentioned as an explicit Elliott 405 user at the 31st meeting of the *405 Group*, which took place at NCR's Marylebone Road headquarters in London on 11th July 1961. The total number of Elliott 405 computers built would seem to be 33.