F2X5 **List of references for Ferranti Mercury** **Issue 3, 26/06/14**
D3

Note that the background to all the early British stored-program projects from 1945 – 1951 is summarised in: ***Alan Turing and his Contemporaries: building the world's first computers***. Simon Lavington [ed]. Published by BCS in 2012. 111 pages; many illustrations. ISBN: 978-1-90612-490-8.

Another general account, spanning the period from the late 1940s to the mid-1960s, is: ***Early British Computers*** (Simon Lavington). Published by Manchester University Press (in the UK) and Digital Press (in the USA) in 1980. 139 pages, many illustrations. ISBN: 0-7190-0803-4. Available online at: http://ed-thelen.org/comp-hist/EarlyBritish.html

Ferranti Mercury Documents.

Below is a full list of documents held by the Museum of Science and Industry (MOSI) at Manchester, together with some held elsewhere. MOSI is the repository for the Ferranti Archive. According to an ICL Classified Index of Literature, Ferranti 'CS' documents describe in detail the techniques involved in applying computers to particular classes of work including programming manuals and exercises; 'DC' documents are descriptions of computers, equipment and systems and 'R' series documents are reprints of published articles. The following are in alphanumeric order of Ferranti list number.

References to MOSI documents should be prefixed with 'F2 Series 6 Box number'. The figures (eg) 18/9 means 'box number 18 document 9'. MOSI also has reprints of some of the published papers as noted.

CS 85 (Supplement to CS 70), April 1956; *Additions to the Mercury Input Routine*; MOSI reference 18/7.

CS 90, June 1956; *Instruction Code and Notation*; MOSI reference 18/8 (mostly elsewhere).

CS 93, June 1956; *Library Index*; MOSI reference 18/9. Interesting.

CS 94, June 1956; *The Programme of the Library Subroutine Arc Tangent*; MOSI reference 18/10.

CS 105A, July 1960; *Computer Reading List*; MOSI reference 17/?

CS 113, October 1956; *Subject Index to Ferranti Computer Literature*; MOSI reference 17/17.

CS 120A, August 1957; *Ferranti Mercury Computer - Questions and Answers*; MOSI reference 4/5. Contains summary of facilities and requirements, including weights, sizes, power and cooling requirements as well as technical details etc. etc.

CS 120B, March 1958; *Questions and Answers*; MOSI reference 4/6.

CS 124; *Tape Code*; CB

CS 140, April 1957; *Additional Facility in the Mercury Input Routine*; MOSI reference 4/7.
CS 154, June 1957; *A Comparison Between Computers of the Besk Series and Mercury*; MOSI reference 4/8. The Besk Series were a Swedish design.

CS 158, July 1957; *Programming Manual issue 1*; MOSI reference 18/12. Has an early version of instruction code - see DC 30A for a more up to date one and also CS 327.

CS 158 addendum No. 1, October 1958; *Mercury Programming Manual*; MOSI reference 4/9. Issue 2 November 2004

CS 161; *Programming Examples*; CB.

CS 1??, October 1957; *Errata No. 1 to CS 161: Mercury Programming Examples*; MOSI reference 18/13.

CS 164, August 1957; *The Main and Auxiliary Equipment of a Complete Installation*; MOSI reference 6/20.

CS 174, October 1957; *Complete Programme Fourier Synthesis*; MOSI reference 6/27.

CS 176, October 1957; *Performance Tests*; MOSI reference 4/10. Interesting.

CS 188A, September 1960; *Internal Function Codes*; MOSI reference 4/11.

CS 192, March 1958; *Operating Instructions*; MOSI reference 4/12.

202A; *Quickie Specifications*; CB.

CS 205, July 1958; *Ferranti Mercury Computer - Recommended Terminology*; MOSI reference 4/13: useful.

CS214, October 1958; *Mercury Autocode (first issue)*; MOSI reference 4/14.

CS214 Supplement No.1, December 1958; *Mercury Autocode Matrix and Vector Operations*; MOSI reference 4/15.

CS 218B, February 1962; *Programmes Available in the Interchange Scheme*; MOSI reference 4/16. Very interesting.

CS 224, November 1958; *Examples of Complete Problems for Programming*; MOSI reference 4/17.

CS 225, November 1958; *Programmers Handbook*; MOSI reference 4/18. Includes additional codes for card punch, line printer, magnetic tape etc, descriptions of quickies etc.

CS 225A; CB.

CS 225 addendum 1, *Mercury Programmers Handbook*; MOSI reference 17/29.

CS 242, May 1959; *The Manchester Mercury Autocode System*; MOSI reference 18/14.
CS 242A, June 1961; RA Brooker, B Richards, E Berg: *Mercury Autocode Manual.* MOSI reference 4/21.

CS 246; *Multiple Input/Output Facilities*; CB.

CS 251, January 1960; *Punched Card Input/ Output Line Printer*; MOSI reference 4/20.

CS 270, July 1960; *Autocode Examples*; MOS reference 4/22. Issue 2 November 2004

CS 296; *Two Sample Complete Programmes*; CB

CS 327, 1962; *Summarised Programming Information*; MOSI reference 4/23. Coding sheet contains much useful data including 9x codes which appear to differ from those of earlier documents.

DC 22, April 1956; *An Introduction to the Ferranti Mercury Computer*; MOSI reference 26/16 (glossy brochure).

DC 22A, July 1957; *An Introduction to the Ferranti Mercury Computer.* MOSI reference 26/17 (glossy brochure).

DC 30, June 1957; *Description of the Ferranti Mercury Computer* (booklet); MOSI reference 13/29. Includes instruction codes (see below for later version, and also CS 327).

DC 30A, August 1958; *A Description of the Ferranti Mercury Computer with Ancillary Equipment* (booklet); MOSI reference 26/32 includes instruction codes. See also CS 327.

R1001, July 1956; *Library Specification Provisional Print 10-bit Integer*; MOSI reference 4/26.

R1100, July 1956; *Mercury Library Specification, provisional 10-Bit Integer Read Routine*; MOSI reference 18/4.

R1101, July 1956; *Mercury Library Routine provisional Fixed Point Number Read*; MOSI reference 18/3.

R1102, July 1956; *Mercury Library Specification, provisional Standard Form Floating Point Number Read*; MOSI reference 18/2.

R1200, June 1956; *Mercury Library Specification, Reciprocal*; MOSI reference 18/5.

R1201, June 1956; *Mercury Library Specification, provisional Reciprocal Square Root*; MOSI reference 18/6.

Mercury Computer Basic Programming for Engineers, Vol 8. MOSI reference 41/12.

Vols 1 - 7 could be useful, containing some basic unit diagrams and an accumulator diagram. Anyone got any?

Mercury Library Specifications; (discontinued October 1963) CB.

Mercury Annotated Input Routines; CB.

Published books and papers.

RA Brooker; *The Autocode Programme Developed for the Manchester University Computers*; Computer Journal 1 1958-59 pp 15 - 21. (Ferranti R18) Issue 2 November 2004

RA Brooker; *Further Autocode Facilities for the Manchester (Mercury) Computer*; ibid pp 124 - 127. Also MOSI reference F2 Series 6 Box 4 document 25.

RA Brooker; *Some Techniques fro dealing with 2-level Storage*; Computer Journal 2 1959-60 pp 189 - 194 (Mainly relating to matrix programing).

RA Brooker, D Morris; *A Description of Mercury Autocode in Terms of a Phrase Structured Language*; Annual Review of Automatic Programming, Vol 2. Also MOSI reference F2 Series 6 Box 4 document 24. (Ferranti R47)

RA Buckingham; *Organisation of a University Computer Centre*; Computer Journal 3 1960-61 pp 131 - 135 (University of London Centre; interesting information relating to users).

DBG Edwards; *Design and Construction of an experimental High Speed Digital Computer*; PhD Thesis, University of Manchester, 1954; John Rylands University of Manchester Library. (MEG; see Lonsdale and Warburton below for differences in Mercury)

JA Fotheringham, M deV Roberts; *An Input Routine for the Ferranti Mercury Computer*; Computer Journal Vol 1 pp 128 - 130. Also MOSI reference F2 Series 6 Box 4 document 25. (Ferranti R18).

J Gibson; *Shell Roof Programmes for the Mercury Computer*; Civil Engineering, Sept - Nov 1961. R54.

T Kilburn, DBG Edwards, GE Thomas; *The Manchester University Mark II Digital Computer*; Proc IEE Vol 103 Suppl. B pp 247 - 268 (MEG; see Lonsdale and Warburton for differences in Mercury).

K Lonsdale, ET Warburton; *Mercury; A High Speed Digital Computer*; Proc IEE Vol 103 Suppl. 2 pp 174 - 183.

Lavington, SH; *History of Manchester Computers*; NCC Publications, 1975. 2nd edition published by BCS in 1998: 56 pages, many illustrations. ISBN: 0-902505-01-8.

Lavington, SH; *Early British Computers*. Published by Manchester University Press (in the UK) and Digital Press (in the USA) in 1980. ISBN: 0-7190-0803-4. Available online at: http://ed-thelen.org/comp-hist/EarlyBritish.html

GE Thomas; *The Design of an Electronic Digital Computer*; PhD Thesis, University of Manchester, 1954; John Rylands University of Manchester Library. (Also MEG. The main thesis is just over 100 pages and appears very clear. The appendices are another 100+ pages and are a mine of useful information. Includes a full diagram of the computational unit including the B-registers. Also details of the components used including valves, semiconductor diodes with their characteristics, resistors, capacitors, and delay lines (including winding details)).

A Brooker; *The Autocode Programmes Developed for the Manchester University Computers.* Computer Journal 1 1958 - 59; pp 15 - 21.

A Brooker; *Further Autocode Facilities for the Manchester University Computer.* ibid pp 124 - 127. Issue 2 November 2004.

A Brooker; *Some Techniques for Dealing with 2-level Storage.* Ibid 2 1959 - 60 pp 189 - 194.

RA Buckingham; *Organisation of a University Computer Centre*. ibid, 3 1960- 61.