FERRANTI LTD.

CLASSIFIED INDEX

OF

FERRANTI COMPUTER LITERATURE

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INTRODUCTION

Ferranti Ltd., manufacture a large range of electronic digital computers, and many documents are written for each. A brief summary is given below with the object of enabling the reader to select the particular computer and its associated documents that are most applicable to his interests.

Computers

Mark 1 and 1*   A medium speed computer no longer in production.

Pegasus 1 and 2: A medium sized general purpose computer. Full data-processing facilities are available.

Mercury: Fast computer mainly for scientific and engineering computations.

Perseus: A large computer designed for data-processing.

Sirius: A small sized medium speed general purpose computer. Fully transistorised.

Orion: A large, fast, data-processing system for technical and commercial computations. Fully transistorised.

Argus: A fast medium sized computer designed for process control applications. Fully transistorised.

Atlas: An extremely large and fast system for both technical calculations and data-processing. Fully transistorised.

Documents

These are in two series: The DC List series which consists largely of printed treatises on the computers, equipment and systems. The CS List series which consists essentially of working documents, mostly in duplicated form, giving instructions, examples etc., in the use of the computers to particular problems, applications etc., including Programming Manuals, and Programming Exercises.

Library Service

Library Services are available for Pegasus, Mercury and Sirius, of Library Specifications, which are descriptions of each programme or subroutine, what it does and how to use it.

Library Programmes are also available (for Pegasus only) which are descriptions of the method used by the subroutine or programme and give the actual instructions obeyed by the computer with full explanatory notes.

For full details see CS 223D.

Reprints

These are given as references to important articles that have appeared in the technical press or journals.

F O R E W O R D

This document is issued to promulgate information about the following documents, which have been added since the previous 'Classified Index' (CS 291) was printed.

CS 294   "Punched Tape Codes"

CS 295   "Process Control Equipment"

CS 296   "Orion: Two sample complete programs"

CS 297   "Orion: Sorting Times"

CS 298   "Atlas: Magnetic Tape"

DC 44   "A description of the Ferranti Pegasus 2 computer"

R 41   "Considerations in choosing a character code for computers
               and punched tapes"
           By H. McG. Ross
           From Computer Journal

R 42   "Administering 625,000 industrial life insurance policies"
               From Data Processing.   Jan/March 1961

R 43   "An assembly program for a phrase structure language"
               By R.A. Brooker and D. Morris

           "Some proposals for the realization of a certain assembly program"
               By R.A. Brooker and D. Morris

           "Running Pegasus Autocode programs on Mercury"
               By A. Gibbons
               From Data Processing.   1961

R 44   "Process control by computer"
               By R.A. Morley and M.B. Wood
               From Control.   May/June 1960

R 45   "Programming digital computers for process control"
               By T.H. Gossling
               From Control.   October 1960

R 46   "The application of computers to process control"
               From Control.   June 1960

R 47   "A description of Mercury Autocode in terms of a phrase structure"
               From Automatic Review in Automatic Programming. Vol.2

R 48   "Ferranti Argus plant control computer"
               From Process Control & Automation.   March 1961

R 49   "A bank adopts automatic data processing"
               By R. Hindle
               From Computer Journal.   Vol.3

R 50   "Computers in Britain"
             By Mr. S. de Ferranti

R 51   "The simulation of the Orion time-sharing system on Sirius"
             By H.P. Goodman
             From Computer Journal

R 52   "Organisation of a computer service for industry and commerce"
             By A.R. Bagshaw
             From Computer Journal

R 53   "The use of Pegasus Autocode in some experimental business
             applications of computers"
             By
             From Computer Journal

R 54   "Shell roof programs for Ferranti Mercury computers"
             By J. Gibson
             From Civil Engineering & Public Works Review.   July/August. 1961

        Each of the above documents is also shown in its appropriate section
of the Classified Index which follows.

        Note:

        R 51 to R 54 may not be available till about September 1961.

CLASSIFIED INDEX · OF COMPUTER LITERATURE

The following documents are issued by the Computer Sales Department and copies may be obtained from either the London Computer Centre or the West Gorton works.

It should be mentioned that all the documents other than the Reprints are Copyright, and in view of the facilities available for obtaining them in quantity, none may be reproduced in whole or in part without the prior written permission of Ferranti Ltd.

CLASSIFICATION

1.   Documents describing machines and equipment.

2.   Miscellaneous.

3.   Performance tests and operating instructions.

4.   Instructional documents.

5.   Libraries.

6.   Applications and Demonstrations.

Note:

Although it is our normal practice to supply these documents free of charge, we regret that we are not always able to do this where large quantities are involved, or where the total cost is substantial.

1.1   DOCUMENTS DESCRIBING MACHINES AND EQUIPMENT

1.1   **General**

DC   3A   Ferranti high-speed tape readers.

DC   12A   The Ferranti tape spooler.

DC   2)   Tape editing equipment.

DC   31   Tape handling accessories.

DC   33   Ferranti transistorised tape reader TR5.

DC   37   Ferranti magnetic drum.

CS   229A   Questions and answers on the Ferranti high-speed paper
             tape reader TR7.

CS   238   The transactor data transmission equipment.

CS   248   The Ferranti/Creed model 75 teleprinter.

CS   295   Process control equipment.

PC   1   Ferranti printed circuits.

R   15   "Heavy duty printed circuits"
             By W.G. Roberts of Ferranti,
             From Electrical Manufacturer.   Sept/Oct. 1958.

R   27   "Programming strategy for protection against computer
             and operator errors"
             By P.M. Hunt of Ferranti,
             From I.E.E. Special Report "Reliability and Maintenance
             of Digital Computer Systems.   Management and Engineering
             Aspects."

R   35   "How a computer works"
             By B.E. Swann of Ferranti,
             From the Petroleum Times.   26th August, 1960.

R   41   "Considerations in choosing a character code for computers
             and punched tapes"
             By H. McG. Ross of Ferranti,
             From Computer Journal.

R   42   "Administering 625,000 industrial life insurance policies"
             From Data Processing.   Jan/March 1961.

R   43   "Ferranti Argus plant control computer"
             From Process Control & Automation.   March 1961.

1.2 Pegasus Computer

DC	10B	Description of the computer with magnetic tape equipment.
DC	44	Description of the Ferranti Pegasus 2 computer system.
CS	114B	The main and ancillary equipment of a complete installation.
CS	119B	Questions and answers. Also in German.
CS	147A	Converter with magnetic tape, punched card, and printer equipment.
CS	156	Multi-punch output.
CS	175	Package component test set.
CS	245	Users' specification of Pegasus 2.
CS	262	How to use the Transactor attached to Pegasus.

1.3 Mercury Computer

DC	30A	Description of the computer with ancillary equipment.
CS	120B	Questions and answers. Also in German.
CS	164	The main and ancillary equipment of a complete installation.
CS	246	Multiple INPUT/OUTPUT facilities.
CS	251	Punched card INPUT/OUTPUT and Line Printer.

1.4 Perseus Computer

DC	35	An introduction to the computer.
CS	148A	Questions and answers. Also in German.
R	21	"The Ferranti Perseus data-processing system" By P.M. Hunt of Ferranti, From the Computer Journal. July 1959.

1.5 Argus Computer

DC	39C	Process control transistor computer.

1.6   <u>Sirius Computer</u>

DC	42A	An introduction to the Ferranti Sirius computer.
DC	43A	The advantages of Sirius.
CS	235	Questions and answers.
CS	239	The field of application.
R	31	"The Sirius computer" By A.R. Wilde of Ferranti, From The Ferranti Journal 1960

1.7   <u>Orion Computer</u>

DC	40	The Ferranti Orion System. Also in German.
DC	41	The Ferranti Orion computer system. Also in French and German.
CS	264E	The Ferranti Orion computer system.
CS	289	The magnetic tape system.
R	32	"ORION" From Data-Processing. April/June 1960.

1.8   <u>Atlas Computer</u>

CS	250B	A brief description of Atlas.
CS	272B	Features of the Ferranti Atlas Computer.
R	33	"Atlas - a new concept in large computer design" By Dr. S. Gill of Ferranti, From Commun. of Ass. for Computer Machinery. June 1960.

2. <u>MISCELLANEOUS</u>

DC 36A   General computer catalogue.

CS 105   Computer reading list.

CS 155A   Notes on the preparation of CS Lists.

CS 234   Interchangeability and compatibility of magnetic tapes.

CS 266   Punched card codes.

CS 286   List of Ferranti computer installations. (Confident...)

R   40   "An assembly program for a phrase structure language"
           By R.A. Brooker and D. Morris of Manchester University,
           From the Computer Journal. October 1960.

R   38   "Assembly, interpretive, and conversion program for Pegasus"
           By G.E. Felton of Ferranti,
           Bound with:
         "Operational experience with the Pegasus Autocode"
           By W.F.M. Payne of Ferranti,
           From Annual Review in Automatic Programming. Vol.1.

R   43   "An Assembly program for a phrase structure language"
           By R.A. Brooker and D. Morris

         "Some proposals for the realization of a certain assembly
           program"
           By R.A. Brooker and D. Morris

         "Running Pegasus Autocode programs on Mercury"
           By A. Gibbons
           From Data Processing.   1961

R   50   "Computers in Britain"
           By Mr. S. de Ferranti

R   51   "The simulation of the Orion time-sharing system on Sirius"
           By H.P. Goodman of Ferranti,
           From Computer Journal

R   52   "Organisation of a computer service for industry and commerce"
           By A.R. Bagshaw of Ferranti,
           From Computer Journal

3.   PERFORMANCE TESTS AND OPERATING INSTRUCTIONS

3.1   General
      CS 108   Performance test for full set of tape editing equipment.

      CS 121   Operating instructions for full set of tape editing equipment.

      CS 146   Operating instructions for simplified tape editing equipment.

      CS 151   Performance tests for simplified tape editing equipment.

      CS 233   Operating instructions for using Electrodata magnetic tape
                mechanisms.

      CS 260   Operating instructions for standard tape editing equipment
                with model 73 teleprinter.

      CS 271   Operating instructions for the teletype punch.

3.2   Mercury Computer
      CS 176   Performance tests.

3.3   Pegasus Computer
      CS 115   Performance tests.

      CS 227   Performance tests for magnetic tape equipment.

4.   <u>INSTRUCTIONAL DOCUMENTS</u>

4.1   <u>General</u>

CS 237   Linear programming on Ferranti Pegasus & Mercury computers.

CS 294   Punched tape codes.

4.2   <u>Mark 1</u>

4.3   <u>Pegasus Computer</u>

CS 50   Programming Manual.

CS 56A   Programming examples using the Matrix Interpretive Scheme.

CS 74   Interpolation Routines.

CS 75F   Index to the Library Specifications.

CS 104   Some common errors in programming and tape punching.

CS 127   Changes in the Initial Orders.

CS 135   Matrix Interpretive Scheme.   Also in German.

CS 141B   Summarised programming information.

CS 142   An example of the integration of ordinary differential equations.

CS 152   A guide to the timing of programs.

CS 153   A simple program - "Special factorize"

CS 185   Examples of complete problems for programmings.

CS 190   Error stops in the Initial Orders.

CS 195   Programming with magnetic tape equipment.

CS 204   Programming examples.

CS 206C   Programs available in the interchange scheme.

CS 217A   Pegasus Autocode.

CS 226A   Autocode instructions.

CS 243   Stops in the Library.

CS 254   Dealing with magnetic tape failures.

CS 256   Blank 2-block programming sheets.
                In pads of 100 sheets.

CS 257   Blank 4-block programming sheets.
                In pads of 100 sheets.

CS 258   Blank 6-block programming sheets.
                In pads of 100 sheets.

CS 265   Programming with 7168 word store.

CS 267   Tape code conversion.

CS 269   1960 Library Tapes.

R   53   "The use of Pegasus Autocode in some experimental business
                applications of computers"
                By
                From Computer Journal.

4.4   <u>Mercury Computer</u>

CS 124   Tape code.

CS 158   Programming manual.

CS 188   Internal function codes.

CS 192   Operating instructions.

CS 202A   Quicky Specifications.

CS 209   Mercury: Allocation of routine numbers and form of
                specifications for Mercury Library.

CS 218A   Programs available on the interchange scheme.

CS 219   Additional programming examples with solutions.

CS 224   Examples of complete problems for programming.

CS 225A   Programmers' Handbook.

CS 241   Introduction to the Mercury Autocode.

CS 242A   Manchester Mercury Autocode System.

CS 270   Autocode examples.

R   17   "An input routine and further Autocode facilities
                for Ferranti Mercury Computer"
                By J.A. Fotheringham and M. de V. Roberts of Ferranti,
                From Computer Journal.

R 18   "The Autocode programs developed for the Manchester
        University computer"
        By R.A. Brooker of Manchester University,
        From Computer Journal.   1959

R 47   "A description of Mercury Autocode in terms of a phrase
        structure"
        From Automatic Review in Automatic Programming.   Vol.2.

4.5   Perseus Computer

CS 177   Programming examples and solutions.

CS 181   Programming manual.

CS 197   Summarised programming information.

CS 198   Computers and card codes.

4.6   Orion Computer

CS 275   Introduction to NEBULA.
        (Chapter 1 and 2 and example 1 of List CS 282).

CS 279A   The built-in program.

CS 280   Blank programming sheets.   Type 'A'
        In pads of 100 sheets.

CS 281   Blank programming sheets.   Type 'B'
        In pads of 100 sheets.

CS 282   NEBULA   (Programming Manual).
        (Natural Electronic Business Language).

CS 283A   NEBULA programming examples.

CS 284   Nebula - Summarised procedure description.

CS 288A   Programming exercises.

CS 290   Description of card readers, card punches and line printers.

CS 296   Orion: Two sample complete programmes.

CS 297   Orion sorting times.

4.7   <u>Sirius Computer</u>

      CS 244   Programming manual.

      CS 253   Elementary programming exercises.

      CS 274   Sirius Autocode.

      CS 278   The Sirius order-code described in plain language.

4.8   <u>Atlas Computer</u>

      CS 298   Atlas: Magnetic tape.

5.   LIBRARY SERVICES

CS 223D   The Library Services.Describes the services available; the fees charged; and how to join.

5.1   The following Library Services are available.   The fee for the 'Initial collected set' covers enrollment in the Service, the supply of one collected set of all current Library Specifications (or Programs) published to date, and the supply of any additions or amendments published during the ensuing twelve months.   Further sets are at a reduced fee as the subscriber has already enrolled.   For full details see CS 223D.

	Initial Collected Set	2nd and subsequent sets. Each	Annual renewal per set
Pegasus Library Specifications	£15	£10	£5
Pegasus Library Programmes	£15	£10	£5
Mercury Library Specifications	£15	£10	£5
Sirius Library Specifications	£15	£10	£5

5.2   Four sets of Library Specifications and one set of Library Programmes are supplied, free of charge, with every Ferranti computer for which they exist. Renewal fees are not applicable to these sets which are kept up to date free of charge.   (i.e. an Owner is made an Honourary Member of the Service)

An Owner who wishes to have more sets than the above Free Issue may subscribe for them in the normal way set out above.

5.3   CS 240 Mercury Annotated Input Routine.   Price: 36/- each.

A copy of this document is supplied with every Mercury Computer.   It is of use only on this computer.

6. APPLICATIONS AND DEMONSTRATIONS

6.1 General

CS 84A   Sorting on an electronic digital computer.

CS 106   Some statistical work on Ferranti digital computers.

R 26   "The use of computers for optimal planning"
       By C.M. Berners-Lee of Ferranti,
       From British Communications and Electronics. November 1959.

R 4   "The electronic digital computer in aircraft structural
       analysis"
       By P.M. Hunt of Ferranti,
       From Aircraft Engineering. March/April & May 1956.

R 34   "Current accounts on a computer"
       From Data Processing. July/September 1960.

R 36   "Management accounting by digital computer"
       From Data Processing. October/December 1960.

R 37   "Digital computers as design aids for electrical engineers"
       By H. McG. Ross of Ferranti,
       From I.E.E. Journal. October 1960.

R 39   "The use of electronic computers in the insurance world"
       By S. Benjamin of Ferranti,
       From the Ferranti Journal.

R 44   "Process control by computer"
       From Control. May/June 1960.

R 45   "Programming digital computers for process control"
       From Control. October 1960.

R 46   "The application of computers to process control"
       From Control. June 1960.

R 49   "A bank adopts automatic data processing"
       From Computer Journal. Vol.3.

6.2 Pegasus Computer

CS 57   A program for the evaluation of flutter coefficients.

CS 80   A demonstration program for the evaluations of the first
       1000 decimal places of e.

CS 130   A demonstration program for the resolution of integers into
       prime factors.

CS 132   The solution of simultaneous linear algebraic equations.

CS 133   Blank data sheets for simultaneous linear equations.

CS 134A   Specification and operating instructions for simultaneous linear equations.

CS 145   A factorial analysis program.

CS 149   Two latent roots program.

CS 150   Description of a program for optical ray tracing.

CS 160   Data-sheets for meridional ray tracing.

CS 165   A fourier analysis program.

CS 166A   Data preparation and operating instructions for a Fourier analysis program.

CS 178   Normal modes for aircraft frames.

CS 186   Linear programming (Scope of SIMPFIX).

CS 187   Linear programming - Data preparation and operating instructions for SIMPFIX.

CS 194   A simple structural frame stressing program (Livesley method).

CS 200   Program specification: Sensimatic to Pegasus. Double marshalling version.

CS 201   The determination of maxima and minima of solution of differential equation.

CS 211   Solution of resonant frequencies of a helicopter blade.

CS 215   A program for the stressing of swept multi-web structures.

CS 220   Program for calculating aerodynamic stiffness and damping matrices.

CS 228   Program for the calculation of whirling speeds.

CS 230   Description of a program for the stressing of multi-anchor 3-dimensional pipework systems.

CS 231   The example of an Autocoded program for sales analysis and forecasting.

CS 232   Banking applications of Pegasus.

CS 252   A program for power system load studies.

CS 273   A program for multiple regression analysis.

CS 285   Program for power system transient stability studies.

CS 287   Log book analysis program.   Mk.2.

R 19   "Filing business data on magnetic tape"
          By J.F. Davison of Ferranti,
          From Data Processing.   April/June 1959.

R 22   "Prediction by computer"
          By J.K. Wyatt of Glacier Metal Company,
          From Data Processing.   July/September 1959.

6.3   Mercury Computer

CS 174   Complete program - Fourier synthesis.

6.4   Perseus Computer

R 20   "An insurance application - The Ferranti Perseus
          data-processing system"
          By P.M. Hunt of Ferranti,
          From Automatic data processing.   June/July 1959.

6.5   Orion Computer

6.6   Argus Computer

R 30   "Controlling continuous process by computer"
          By T. Stones of Ferranti,
          From Data Processing.   January/March 1960.

R 48   "Ferranti Argus plant control computer"
          From Process Control & Automation.   March 1961.

CROSS-REFERENCE INDEX

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