File Number 1620-00
Form A26-5692-1

IBM Systems Reference Library

IBM 1620 Bibliography

All reference literature applicable to the installation and operation of the IBM 1620 Data Processing Systems, Models 1 and 2, is indexed in this Bibliography. The Bibliography is in three parts: Part 1 lists the publications under major subject headings – this listing can serve as a Table of Contents for the 1620 Systems Reference Library.

Part 2 provides a cross-index of publications by machine type number to help the user find publications on subjects for which the title is not known.

Part 3 contains the abstracts of all publications in form-number sequence. The abstract of a publication enables the user to determine whether the publication is applicable to his needs.

The IBM 1710 Bibliography lists publications that explain the use of the 1620 in IBM Control Systems.

Most IBM publications can be obtained by form number from the local IBM Sales Representative. Publications which must be ordered in a special way are so noted in the abstracts (Part 3).

Preface

This bibliography is part of the 1620 Systems Reference Library (SRL). The 1620 SRL, like the SRL's for other IBM Systems (1710, 1410, etc.), includes all the IBM marketing publications which support installation, programming, and operation of the system. An SRL does not include promotional or Customer Engineering literature.

File Numbers

The cover page of each SRL publication contains the title, an abstract, a *file number* for SRL organization, and a *form number* for exact identification. The file number designates the subject matter and the particular system or unit with which the publication is concerned. For example, the file number of this bibliography is 1620-00. The 00 suffix is the subject code of the file number. See "SRL Organization."

Subject Codes

Note that the subject codes organize the system into condensed or summary publications (subject code 00), machine publications (codes 01-15), programming publications (20-48), and installation supplies (80). Educational and OEMI publications are not considered part of the SRL.

SRL Newsletters

An SRL newsletter is published monthly to update this bibliography. It contains an accumulative index of all 1620 marketing publications, together with any applicable technical newsletters.

Technical Newsletters

Technical newsletters are a quick means of disseminating pertinent information for inclusion in an existing publication. They are published as soon as the information is released to San Jose Product Publications. They are not listed in the bibliography.

SRL Organization

Subject Code	*Subject Heading*
00	**Systems Information — Condensed** (Introductory, Summary, etc.)
01	**Machine System** (Central Processing Unit, Console, etc.)
03	Input/Output
05	Magnetic Tape
07	Disk Storage
09	Special Systems (TELE-PROCESSING, Banking, etc.)
10	Auxiliary Equipment
13	Special Features
15	Physical Planning Specifications
20	**Programming Systems**
21	Symbolic Assembly Systems
22	Autocoder
23	Commercial Translator
24	COBOL
25	FORTRAN
26	ALGOL
27	Processor
28	Report Program Generator
30	Input-Output Control System
32	Utility Programs
33	Sort-Merge
34	Disk Storage File Organization
35	System Simulation
36	Supervisor, Monitor
37	Automatic Testing Program
48	Miscellaneous Programs
50	System Techniques (Miscellaneous programming and operating information not falling into other subject code groups.)
80	Installation Supplies (Reference Cards, Program Coding Sheet Pads, etc.)
None	Supplementary Information Education Material Original Equipment Manufacturers' Information (OEMI) Manuals

Major Revision (August, 1963)
This publication replaces and obsoletes the previous 1620 Bibliography (A26-5692-0).

Copies of this and other IBM publications can be obtained through IBM Branch Offices. Comments concerning the contents of this publication may be addressed to: IBM, Product Publications Department, San Jose, California

Part 1A — Library Subject Code Listing

This section of Part 1 lists all current 1620 marketing publications according to subject. The subject codes, which separate all system publications into similar catagories, are sequenced in the recommended order for assembly of a complete 1620 Systems Reference Library (SRL). SRL publications carry the subject code on the front cover as part of the File Number, e.g., this Bibliography has the File Number 1620-00 on the front cover. Future 1620 publications will be announced by SRL Newsletters that refer to this Bibliography.

The publications marked with an asterisk (*) are of possible interest to other than 1620 (or 1710) users.

SUBJECT CODE	PUBLICATION	FORM NUMBER
00	***Systems Information — Condensed***	
	1620 Bibliography	A26-5692
	1620 Reference Summary	A26-5604
	1620 System Configuration	A26-5691
	1620 Systems Summary	A26-5718
01	***Machine System***	
	1620 Central Processing Unit, Model 1	A26-5706
	1620 Model II Data Processing System	G26-5657
03	*Input/Output*	
	1443 On-Line Printer for 1620/1710 Systems	A26-5730
	1620 Input/Output Units	A26-5707
	1627 Plotter	A26-5710
07	*Disk Storage*	
	1311 Disk Storage Drive, Model 3	A26-5650
09	*Special Systems*	
	*7765 Paper Tape to Magnetic Tape Converter	A22-6570
13	*Special Features and RPQ's*	
	Binary Capabilities and Index Registers	A26-5764
	1620 Special Features	A26-5708
	1901 Typewriter Tape Punch, RPQ E95263	L26-5552
	1902 Model 23 Tape Punch	L26-1564
	1921 Model 5 Magnetic Tape Control Unit, RPQ 898005	L26-5576
	1940 Serial Printer, RPQ M94713	L26-5563
15	*Physical Planning Specifications*	
	*Physical Planning General Information	F24-1052
	1620 Installation Manual - Physical Planning	C26-5501

20 *Programming Systems*

*Catalog of Programs for IBM Data Processing Systems - KWIC Index C20-8090

21 *Symbolic Programming System*

1620/1710 Symbolic Programming System C26-5600
1620 SPS Preliminary Specifications J26-4201
1620 SPS for Card I/O and Additional Core Storage J26-5556
1620 Subroutines, Preliminary Specifications J26-4203
1620 SPS II-D for Monitor II C26-5768
1620 SPS III C26-5749
1620 SPS III for 1443 Printer C26-5736

25 *FORTRAN*

*FORTRAN F28-8074
1620 FORTRAN C26-5619
1620 FORTRAN II Specifications C26-5602
1620 GOTRAN Interpretive Programming System C26-5594
1620 FORTRAN II Operator's Guide C26-5662
1620 FORTRAN and FORTRAN II for 1443 Printer C26-5735

36 *Supervisor, Monitor*

1620 Monitor I System Reference Manual C26-5739

37 *Testing Programs and Routines*

Program Writing and Testing J26-5547

80 *Installation Supplies*

1620/1710 Symbolic Programming System Coding Sheet, Absolute System Coding Sheet X26-5627
Physical Planning Templates X26-5502
*Fortran Coding Forms X28-7327

Part 1B — Supplementary Information

This section of Part 1 lists publications of limited or special use not included in the Systems Reference Library. See Part 3 for abstracts and ordering information.

1. *Education:* Publications and materials for use in 1620 educational programs:

TITLE	FORM NUMBER
Education Guide	R27-9586
Practice Problems	227-6858
Examination	R27-5522
Scoring Key	R27-5523
Overhead Projector Foils	V25-6164

2. *Original Equipment Manufacturer's Information (OEMI):*
Includes information and/or specifications for the special needs of designers of accessory equipment.
1620 OEMI Manual A26-5569

Part 2 — Machine Index

This cross-index is provided to assist in locating programming, operating, and related information on machine components and devices not specifically mentioned in the titles of publications. Only those publications listed under subject codes 01 to 13 are included. See the abstracts in Part 3 for a description of each publication.

Part 3 — Abstracts

The abstracts of all publications and materials shown in Part 1 appear below in form number sequence. The 1620 user can determine from the abstract whether the publication is applicable to his needs.

227-6858 1620 Data Processing System Practice Problems **EDUC**

These problems are to be used with the 1620 Education Guide, R27-9586, in teaching 1620 programming. Solutions are included in the Education Guide. There are 16 FORTRAN problems and 24 SPS and machine language problems. For hands-on experience, eight console exercises cover the common console operations. A programming error-recognition exercise is included which requires a program tape or card deck – available from Education Planning, San Jose. Publication to be ordered through District Education Centers. (28 pages)

A22-6570 7765 Paper Tape to Magnetic Tape Converter Reference Manual **09**

This manual explains the use and capabilities of the 7765 Paper Tape to Magnetic Tape Converter in data processing operations. Functional components such as the paper tape reader, the paper tape control translate, the converter adapter, the incremental operation write adapter, and the incremental tape drive are described. A section on the control panel describes the functions of each hub and the wiring for 5-track and 8-track paper tape operations. In addition, the procedures for roll, reel, and strip feeding are explained. (28 pages)

A26-5569 1620 OEMI Manual **OEMI**

This manual provides non-IBM engineers with sufficient data to attach units of the 1620 System to their equipment. It contains supplemental tie-in data not readily available in other IBM publications, and tables that show characteristics of data and signal lines at the cable connectors. (32 pages)

A26-5604 1620 Data Processing System Reference Summary **00**

This pocket size manual (3¾ x 7¼ inches) contains summary information from five IBM publications:

1311 Disk Storage Drive, Model 3 ..... A26-5650
1620 Central Processing Unit, Model 1 ... A26-5706
1620 Input/Output Units A26-5707
1620 Special Features A26-5708
1443 On-Line Printer for 1620/1710 Systems A26-5730

This summary is intended for the experienced programmer and operator. (72 pages)

A26-5650 1311 Disk Storage Drive, Model 3 **07**

This publication describes the operating principles and features of the IBM 1311 Disk Storage Drive as it is used with the 1620 Data Processing System, or the 1710 Control System. Included is a description of the program instructions, indicators, keys, and lights. Sections on disk pack handling and storage, and programming considerations augment the functional aspect of this manual. (28 pages)

A26-5691 1620 System Configurator **00**

This publication enables the 1620 user to determine the prerequisites for each special feature and machine unit available as of April, 1963. Both the 1620 Model 1 and Model 2 versions are shown in block diagram form, with ordering numbers for all features, units, and adapters. (1 sheet)

A26-5692 1620 Bibliography **00**

See front cover for abstract.

A26-5706 1620 Central Processing Unit, Model 1 **01**

This publication contains basic programming and operating information for the 1620 Central Processing Unit as it is used in the 1620 Data Processing System and in the 1710 Control System. Comprehensive information

is included on core storage, computer instructions, data flow, and console operation. Program testing techniques are included as an aid in analyzing programs in the computer. (56 pages)

A26-5707 1620 Input/Output Units 03

This publication describes the input/output units for the 1620 Data Processing System and the 1710 Control System. An introduction to paper tape and IBM card coding is included. In addition, program load routines and a description of the operation of the console typewriter are provided.

Included are descriptions of the 1621 Paper Tape Reader, 1622 Card Read-Punch, 1624 Tape Punch, and Console Typewriter. (40 pages)

A26-5708 1620 Special Features 13

This publication describes the special features available for the 1620 Data Processing System and the 1710 Control System. Included are descriptions of automatic division, automatic floating-point operations, indirect addressing, additional instructions, and the IBM 1623 Core Storage Unit. (28 pages)

A26-5710 1627 Plotter 03

This publication describes both Models 1 and 2 of the IBM 1627 Plotter. The text illustrates how the 1627, in conjunction with the 1626 Plotter Control Unit, provides fully annotated graphs as an on-line function of a 1620 or 1710 System. (12 pages)

A26-5718 1620 System Summary 00

The purpose of this publication is to help the user achieve a basic understanding of the System and the interrelationship of its many parts. Brief descriptions are provided for the system concepts, the system units and special features, and the programming systems and available programs. (24 pages)

A26-5730 1443 On-Line Printer for 1620/1710 Systems 03

This publication introduces the 1443 Printer as an On-Line Output Unit for the 1620 Models I and II, and the 1710. The text includes an explanation of the following 1443 standard features: the print buffer, which enables the 1620 to continue processing during print time; the tape-controlled carriage which feeds continuous paper forms; and the standard 1620 output instructions that control paper movement and printing. (8 pages)

A26-5764 1620 Data Processing System, Model 2—Binary Capabilities and Index Registers 13

This publication describes the 1620 Model 2 Special Feaures, Binary Capabilities and Index Registers. The instructions for both features are described and illustrated with data flow diagrams. The Binary Capabilities section includes a brief explanation of the binary, octal, and decimal number systems. (16 pages)

C20-8090 Catalog of Programs for IBM Data Processing Systems — KWIC Index 20

This Catalog contains information about all computer programs currently available from the IBM Program Information Department and the Program Distribution Center.

It contains four main sections: an Introduction with instructions on how to order programs; an Index in both Keyword-in-Context format and Classification Code format: an Abstract section describing each program available from the IBM Program Information Department; and an Abstract section describing each program available from the Program Distribution Center. (312 pages)

C26-5501 Installation Manual — Physical Planning, 1620 Data Processing System 15

This manual contains detailed information necessary for planning the physical installation of a 1620 System. The contents of this manual should be studied carefully before machines are installed. Knowledge of this material will save both the DP Sales Representative and the IBM Customer time and money.

Included are definitions and descriptions of the following installation requirement areas: Assembly and Connection, Weights, Unit Dimensions, Layout and Space Requirements, Floor Loading, Connecting Cables, Fire Protection Equipment, Power Specifications, Permissible Variations, Current and Voltage Requirements, Power Distribution, Lightning Protection, Receptacles, Connectors and Power Cords, Temperature, Humidity, and Heat Dissipation.

Drawings presented include: Floor-Plan Unit Dimensions and Service Clearance, Support Locations, and Power and Signal Cable Entrances. (16 pages)

C26-5594 1620 GOTRAN Interpretive Programming System Reference Manual **25**

The 1620 GOTRAN System provides the 1620 user with a simple interpretive programming system whose language is a subset of the 1620 FORTRAN language. A GOTRAN program is executed in a "load and go" fashion; that is, no intermediate machine language output program is created.

GOTRAN source programs may be processed singly, or in batches, with only one loading of the GOTRAN compiler/interpreter program. Subroutines are included to evaluate the following functions: Sine, Cosine, Arctangent, Square Root, $e^{(x)}$, and $Log_e(x)$. Of special interest is the ability of GOTRAN to plot functions graphically by means of the PLOT Statement. GOTRAN provides an excellent means of introducing scientists, engineers, and technicians to programming and computer disciplines. (34 pages)

C26-5600 1620/1710 Symbolic Programming System Reference Manual **21**

This manual describes details of the 1620/1710 SPS Two-Pass Processor, namely, statement writing, operations and associated mnemonic operation codes, preediting the source program, adding user's subroutines and macro-instructions, organization and operations of the processor, formats of both uncondensed and condensed card output decks, operating procedures, and special procedures (condensed object deck alteration, modifying the processor for additional storage, condenser program). A 7090 processor for assembling 1620/1710 programs is also described. (116 pages)

C26-5602 1620 FORTRAN II Specifications **25**

The 1620 FORTRAN II System is an extension of the basic 1620 FORTRAN System. It is designed for a 1620 System with the following special features: Automatic Divide, Indirect Addressing, 1623 Additional Core Storage Model 1, and 1622 Card Read-Punch. Additional statements include SUBROUTINE, FUNCTION, CALL, RETURN, EQUIVALENCE and COMMON. (24 pages)

C26-5619 1620 FORTRAN Reference Manual **25**

This manual is divided into six sections, each developed to meet a specific need of the FORTRAN user.

Part 1. "Introduction to IBM FORTRAN" is intended for readers who do not have a previous knowledge of other FORTRAN systems or a background in data processing.

Part 2. "Writing the 1620 FORTRAN Program" is developed primarily for the "nonprofessional programmer," a person not engaged in programming as a full time occupation.

Part 3. "Operating Principles" provides the information necessary to implement the FORTRAN System on the 1620 Computer.

Part 4. "Analysis of the FORTRAN Program" in intended for the experienced programmer.

Part 5. "The FORTRAN Pre-Compiler Program" is a special program provided by IBM to enable the FORTRAN programmer to "pretest" FORTRAN programs.

Part 6. "Appendix B" is a summary of the operating principles described in the IBM publications: 1620 Central Processing Unit, Model 1 (Form A26-5706) and 1620 Input/Output Units (Form A26-5707). (96 pages)

C26-5662 1620 FORTRAN II Operator's Guide **25**

This publication contains operating procedures for the 1620 FORTRAN II Programming System. Used in conjunction with the 1620 FORTRAN II Specifications Bulletin, C26-5602, it provides the necessary information to efficiently use FORTRAN II.

In addition to the operating procedures, it includes procedures for adding subroutines, layouts of core storage during processing, descriptions of symbol table listings, and a detailed description of error messages and restart procedures. (32 pages)

C26-5735 1620 FORTRAN and FORTRAN II for 1443 Printer **25**

This publication presents two printer-oriented versions of the FORTRAN Programming System. One version is a modified form of 1620 FORTRAN while the other is a modified form of 1620 FORTRAN II. The information contained herein comprises only the specifications and procedures that are different from those contained in previously published 1620 FORTRAN and FORTRAN II manuals. (4 pages)

C26-5736 1620 SPS III for 1443 Printer **21**

This publication presents 1620 SPS III, a major modification of 1620/1710 SPS. This new assembly program uses the 1443 Printer as an integral unit in the assembly

of source programs. It includes ten printer mnemonics which can be used to program the 1443 Printer. No 1710 mnemonics are included in the 1620 SPS III System. (4 pages)

C26-5739 IBM 1620 Monitor I System Reference Manual **36**

This publication describes the 1620 Monitor I System, a combined operating and programming system. This system includes the Supervisor Program, the Disk Utility Program, the SPS II-D Assembler, and the FORTRAN Compiler. The latter three programs operate under control of the Supervisor Program to provide continuous operation.

This publication gives detailed information for preparing control records, writing source programs in either SPS or FORTRAN languages, and for operating the system. (164 pages)

C26-5749 1620 SPS III **21**

This publication introduces 1620 SPS III, a modification of 1620/1710 SPS. It contains a listing of new 1620 Model 2 mnemonics, programming information for index registers and binary capabilities, and the minimum system requirements. (4 pages)

C26-5768 1620 SPS II-D for Monitor II **21**

This publication introduces 1620 SPS II-D for Monitor II, an expansion of SPS II-D for Monitor I. Unique mnemonics for the index registers and binary capabilities features for the 1620 Model 2 are included. (4 pages)

F24-1052 Physical Planning General Information Manual **15**

This manual, which is intended primarily for Customer personnel responsible for planning site facilities for IBM Data Processing Equipment, explains the general aspects of physical planning as they concern the entire field of IBM Data Processing Equipment.

The requirements and recommendations for site selection, air conditioning, structural engineering, electrical power, lighting, noise reduction, floor planning and safety are also included. (40 pages)

F28-8074 FORTRAN General Information Manual **25**

FORTRAN is an automatic coding system developed to provide a means of expressing problems in a symbolic source language similar to the language of mathematics.

This manual describes FORTRAN and prepares the reader to use the facilities it provides. FORTRAN is available for the IBM 650, 1620, 700 series, 1400 series, and 7000 series Data Processing Systems. (108 pages)

G26-5657 1620 Model II Data Processing System Bulletin **01**

This bulletin explains the basic differences between the IBM 1620 and 1620 II Data Pocessing Systems, and assumes either a knowledge of the 1620 or availability of the following IBM publications: 1620 Central Processing Unit, Model 1 (Form A26-5706), 1620 Input/Output Units (Form A26-5707), and 1620 Special Features (Form A26-5708).

The 1620 Model 2 Console Typewriter – a modified IBM SELECTRIC – is described, and all 1620/1620-2 instructions are summarized. (8 pages)

J26-4201 1620 SPS Preliminary Specifications **21**

The 1620 Symbolic Programming System is designed to simplify program preparation for the IBM 1620 Data Processing System. This manual contains the specifications of the system (Library Nos. 1620-SP-008 and 1620-SP-009) and describes 1620 Symbolic Language Programming techniques as well as general principles and concepts of Symbolic Programming. A knowledge of 1620 machine language is pre-supposed. (32 pages)

J26-4203 1620 Subroutines—Preliminary Specifications **21**

This publication contains the specifications of the subroutines that are used with the 1620 Symbolic Programming System, Library No. 1620-SP-008 for paper tape, Library No. 1620-SP-009 for cards. This manual is to be used in conjunction with the 1620 Symbolic Programming System Specifications Manual, Form J26-4201. (20 pages)

J26-5547 Program Writing and Testing Bulletin **37**

This bulletin describes writing and testing techniques useful in programming the IBM 1620 Data Processing System. Included are dump, trace, and utility routines, and a check routine for flags and record marks. (24 pages)

J26-5556 1620 SPS for Card I/O and Additional Core Storage **21**

This publication contains the additional 1620 SPS Specifications that are needed to make use of an IBM 1622 Card Read-Punch and/or 1623 Core Storage Unit. Included are descriptions of new mnemonics that may be used to write programs for card operation.

This manual is used in conjunction with the 1620 SPS Specifications Manual, Form J26-4201. (4 pages)

L26-1564 1902 Model 23 Tape Punch **13**

This publication describes the 1902-23 Tape Punch for the 1620. This system provides 75 cps punching of either paper or MYLAR* tape which is suitable for applications such as numerical control of machine tools. The 1902-23 may be installed as a replacement for the 1624. The controls, operating principles, tape specifications and physical planning considerations are described. (8 pages)

L26-5552 1901 Typewriter Tape Punch Bulletin RPQ E95263 **13**

This bulletin describes the operation of the IBM 1901 Typewriter Tape Punch. The 1901 is used to prepare "off-line" paper tape input for the 1620 Data Processing System. The bulletin also includes a character coding chart, an error correction routine, and information on operating principles. (12 pages)

L26-5563 1940 Serial Printer Bulletin, RPQ M94713 **13**

This bulletin describes the operating features of the IBM 1940 Serial Printer. The 1940 Printer, with a printing speed of 50 characters a second, is suitable for 1620 Data Processing System applications requiring large amounts of printed output data. Included in this bulletin are program instructions, operating principles, and physical planning considerations. (20 pages)

L26-5576 1921 Model 5 Magnetic Tape Control Unit Bulletin RPQ 898005 **13**

This bulletin describes the operation of the IBM 1620 Magnetic Tape Data Processing System. Major subjects are magnetic tape operating principles, programming principles, and 1620 program instruction. The text includes physical planning considerations. (44 pages)

*DuPont registered trademark for polyester film

R27-5522 1620 Education Guide Examination **EDUC**

This examination consists of 20 FORTRAN questions and 30 SPS and machine language questions on the 1620 and on 1620 programming. It is used with the 1620 Education Guide, Form R27-9586, and the 1620 Scoring Key, Form R27-5523. Order through the District Education Centers. (11 pages)

R27-5523 1620 Education Guide Examination Scoring Key **EDUC**

This Scoring Key, designed for a Test Scoring Machine, is a supplement to the 1620 Education Guide (Form R27-9586); the examination Form Number is R27-5522. Order through District Education Centers.

R27-9586 1620 Education Guide **EDUC**

This Education Guide is a detailed outline of a ten-day customer course in 1620 programming. Supplementary materials are included, as follows:

Practice Exercises 227-6858
Examination R27-5522
Scoring Key R27-5523
Overhead Projector Foils V25-6164

The Education Guide emphasizes FORTRAN to the extent that it is given first place in the outline. SPS and machine language programming are then studied in parallel. The length of the course can be reduced for students with sufficient programming experience, or by elimination of paper tape and/or card input-output. Order through District Education Centers.

V25-6164 Overhead Projector Foils **EDUC**

These foils are a supplement to the IBM 1620 Education Guide (Form R27-9586). Order through District Education Centers.

X26-5502 1620 Physical Planning Templates **80**

This transparent, acetate sheet contains equipment templates (¼" scale) for use in planning a machine room layout. System units included on the sheet are the 1311, Disk Storage Drive, 1620 Models 1 and 2 CPU's, 1621 Paper Tape Reader, 1622 Card Read-Punch, and the 1623 and 1625 Core Storage units. (1 sheet)

X26-5627 1620/1710 Symbolic Programming System Coding Sheet, 1620/1710 Absolute System Coding Sheet **80**

One side of this form provides for coding either 1620 or 1710 programs in the SPS; the reverse side is designed for coding either 1620 or 1710 programs in absolute (machine) language. The form includes numbered and ruled fields to facilitate both programming and punching, pre-numbered lines for the sequencing of each entry, and space for information relevant to the coding and subsequent assembly of the object program. (25 sheets each pad)

X28-7327 FORTRAN Coding Forms **80**

This form is used when programming in the FORTRAN language. Columns and lines are ruled and numbered to facilitate both programming and card punching. Data from the coding sheet may be transcribed into IBM Card Form 888-157 (50 sheets each pad)

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Data Processing Division
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