

The IBM logo, consisting of the letters "IBM" in a bold, sans-serif font, is positioned inside a solid black square.

## **Systems Reference Library**

### **IBM 1800 Data Acquisition and Control System Bibliography**

Reference literature applicable to the installation and operation of the IBM 1800 System is indexed in this bibliography. The bibliography is published in three parts:

Part 1 lists the publications under major subject headings. This listing serves as a table of contents for the 1800 Systems Reference Library.

Part 2 is a cross-index of publications by machine type number.

Part 3 contains the abstracts of the publications in form number sequence.

Most form-numbered IBM publications can be obtained from the local IBM Sales Representative.

## Preface

### Systems Reference Library

#### Its Organization and Use

For each major IBM data processing system, a Systems Reference Library (SRL) has been established to consolidate all basic reference literature necessary in planning, programming, installing, and operating the system. A separate SRL dealing with IBM Teleprocessing is available.

#### Bibliography

The bibliography lists applicable publications and related materials in subject code and machine type number sequence and provides a brief abstract of each publication.

By reviewing these indexes and abstracts you may select those items of interest to your installation and keep abreast of other materials which may be useful at some future time.

#### File Numbers and Subject Codes

The cover page of each SRL bulletin shows the title, abstract, form number, and a file number for the document. The file number identifies the system or component discussed and the general subject area.

For publications associated with one or two SRL libraries, the prefix of the file number is the system type number (for example, 1401/1460-, 7080-). When the publication is included in more than two libraries, the component type (1311-, 7330-) is used, if applicable. In other cases GENL (general) is used.

The suffix of the file number is the subject code which designates a general subject area and the suggested filing sequence. Code 15, for example, is used for all publications related to physical planning specifications; code 33 appears on all publications related to IBM sort and merge programs for the system.

Installation supplies such as coding forms, physical planning templates, and the like are listed under subject code 80.

Other publications of general interest to a system user are listed under the heading *Supplementary Information* with subject code 99.

#### SRL Publications

The system summary, listed under subject code 00, contains a brief description of the specifications and functional characteristics of system configurations, components, special features and programming sys-

tems. Detailed descriptions, together with programming and operating data, are found under subsequent subject codes.

Also listed under subject code 00 is the *Configurator*, a chart diagramming the components, features and connections that make up the various configurations of the system.

#### Technical Newsletter

To keep SRL publications current, additions and other modifications are distributed as Technical Newsletters (TNL). These are identified in the masthead with the file number and form number of the publication to which they apply. All previously issued TNLs are also listed so that you may verify receipt of all modifications.

#### SRL Newsletters

A special SRL Newsletter is issued periodically (every four weeks if changes have occurred during that period) to update the bibliography. All current publications are listed in subject code sequence showing form number and title of the publication as well as the form number of applicable technical newsletters. Obsolete publications are listed separately with new references indicated. Abstracts of new publications are also given.

The form number revision suffix is shown so that you may verify your publications as current. In some cases more than one edition of a publication is current since a reprint incorporating previously distributed replacement pages is given a new suffix. When this occurs, all current editions and applicable technical newsletters are listed in the SRL Newsletter.

#### SRL Revision Service

A direct mail revision service is available to IBM system users to supply technical newsletters and revised publications for a library. For details concerning subscription procedures contact your local IBM representative.

#### IBM Programming Systems

SRL Newsletters also show the current status of programming systems available for a system. Additional data, including ordering instructions, for these and application programs, are included in Catalogs of Programs for IBM Data Processing Systems.

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, Calif. 95114

## Part 1—SRL Subject Code Listing

Part 1 lists all current 1800 System publications according to subject. The subject codes, which separate all system publications into similar categories, are sequenced in the recommended order for assembly of a complete 1800 Systems Reference Library (SRL). SRL publications carry the subject code on the front cover as part of the file number, for example, this bibliography has the file number 1800-00 on the front cover. Future 1800 System publications will be announced by SRL Newsletters that refer to this bibliography.

An asterisk ( \* ) preceding a title indicates the publication is applicable to other systems as well as the 1800 System.

SUBJECT CODE		FORM NUMBER
<b>00</b>	<b>1800 Systems Reference Library</b>	
	1800 Bibliography	A26-5921
	1800 System Summary	A26-5920
	1800 Configurator	A26-5919
<b>01</b>	<b>Machine System</b>	
	1800 System Reference Manual	A26-5918
<b>03</b>	<b>Input/Output</b>	
	1800 System Input/Output Units	A26-5969
	*1050 Data Communication System	A24-3020
	*1403, 1443 Printers Form Design Considerations	A24-3041
	*1442 Card Read Punch	A24-3119
	*1443 Printer, Models 1, 2, and N1	
	1445 Printer, Models 1 and N1	A24-3120
	*1627 Plotter	A26-5710
<b>05</b>	<b>Magnetic Tape Units and Controls</b>	
	*2400 Magnetic Tape Units and 2816 Switching Unit Principles of Operation	A22-6866
<b>15</b>	<b>Physical Planning Specifications</b>	
	1800 Installation Manual – Physical Planning	A26-5922
<b>19</b>	<b>Original Equipment Manufacturers' Information (OEMI):</b>	
	Information and specifications to assist engineers and designers who require technical information for connecting IBM units to equipment not manufactured by IBM.	
	*1443 Printer, OEMI	A24-3122
	*1442 Card Read Punch Models 1 and 2, 1442 Card Reader Model 3, OEMI	A21-9002
	*1050 OEMI	A24-3143
<b>21</b>	<b>Symbolic Assembly Systems</b>	
	1800 Assembler Language	C26-5882

SUBJECT CODE		FORM NUMBER
<b>25</b>	<b>FORTRAN</b> 1800 FORTRAN Language	C26-5905
<b>30</b>	<b>Input/Output Control System</b> 1800 Subroutine Library	C26-5880
<b>32</b>	<b>Utility Programs</b> 1800 Utility Routines	C26-5907
<b>36</b>	<b>Supervisor, Monitor</b> 1800-2310 Monitor System Specifications 1800 Time-Sharing Executive System	C26-5936 C26-5945
<b>80</b>	<b>Installation Supplies</b> 1800 Assembler Coding Form	X26-5908

## Part 2—Machine Index

This part of the IBM 1800 Bibliography cross-indexes specific system components by number and name with pertinent publications by subject code and form number. Publications having subject codes 01 through 19 are listed.

MACHINE OR FEATURE NUMBER	NAME	SUBJECT CODE	FORM NUMBER
1053	Printer	03	A26-5969
		03	A24-3020
		15	A26-5922
1054	Paper Tape Reader	19	A24-3143
		03	A26-5969
		03	A24-3020
		15	A26-5922
1055	Paper Tape Punch	19	A24-3143
		03	A26-5969
		03	A24-3020
		15	A26-5922
1442	Card Read Punch	19	A24-3143
		03	A26-5969
		03	A24-3119
		15	A26-5922
1443	Printer	19	A21-9002
		03	A26-5969
		03	A24-3041
		03	A24-3120
		15	A26-5922
1627	Plotter	19	A24-3122
		03	A26-5969
		03	A26-5710
1801	Processor-Controller	15	A26-5922
		01	A26-5918
1802	Processor-Controller	15	A26-5922
		01	A26-5918
1816	Printer-Keyboard	15	A26-5922
		03	A26-5969
		03	A24-3020
		15	A26-5922
1826	Data Adapter Unit	19	A24-3143
		01	A26-5918
		15	A26-5922
1827	Data Control Unit	01	A26-5918
		15	A26-5922
		01	A26-5918
1828	Enclosure	15	A26-5922
		01	A26-5918
		15	A26-5922

MACHINE OR

FEATURE

NUMBER

NAME

SUBJECT CODE

FORM NUMBER

1851	Multiplexer Terminal	01	A26-5918
		15	A26-5922
1854	Hybrid Input Terminal	01	A26-5918
		15	A26-5922
1856	Analog Output Terminal	01	A26-5918
		15	A26-5922
2310	Disk Storage	03	A26-5969
		15	A26-5922
2401	Magnetic Tape Units	03	A26-5969
		05	A22-6866
		15	A26-5922

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

**A21-9002 1442 Card Read Punch Models 1 10  
and 2, 1442 Card Reader Model 3:  
Original Equipment Manufacturers'  
Information**

This manual contains information to assist those who wish to attach the IBM 1442, Models 1, 2, 3 to non-IBM equipment. It includes a general description of machine functions, a reference listing of publications and engineering documents, and information concerning machine interface not readily available in other publications. (Ref. Man. — 16 pages)

**A22-6866 2400 Magnetic Tape Units and 05  
2816 Switching Unit Principles of  
Operation**

This manual is a comprehensive presentation of the characteristics, functions and features of IBM 2400 Magnetic Tape Units and a general description of the IBM 2816 Switching Unit.

In most instances operational descriptions are limited to the channel and command level. Operating functions and procedures common and fundamental to all I/O operations are described in the *IBM System/360 Principles of Operation* (Form A22-6821). Additional magnetic tape unit information about general principles, tape handling, operating procedures, etc., are found in *IBM 729, 7330, and 727 Magnetic Tape Units, Principles of Operation* (Form A22-6589).

**A24-3020 1050 Data Communications System 03**

This IBM Tele-Processing System is described in detail, by unit, in this publication. The major areas of the IBM 1050 System discussed are:

- Component Description
- Controls and Indicator Lights
- Special Features
- Principles of Operation
- Special Techniques

An appendix containing information on data-sets, timing, glossary, and 1050 character set is also included.

This manual includes information pertaining to the following IBM 1800 System units:

- 1816 Printer-Keyboard
- 1053 Printer
- 1054 Paper Tape Reader
- 1055 Paper Tape Punch

**A24-3041 1403 and 1443 Printers Form 03  
Design Considerations**

This publication contains information on forms design and considerations for handling forms used with the IBM 1403 and 1443 Printers.

**A24-3119 1442 Card Read Punch 03**

This publication describes the operation of the IBM 1442 Card Read Punch, Models 1 and 2 and the IBM 1442 Card Reader, Models 3 and 4, with the applicable data processing systems.

The functional and operating characteristics of the card read punch are presented. The timing considerations related to the read and punch operations are shown.

Special features that are available for the IBM 1442 Card Read Punch are described, with the instructions for each feature.

**A24-3120 1443 Printer, Models 1, 2, and N1 03  
1445 Printer, Models 1 and N1**

This reference publication describes the operation of the IBM 1443 and 1445 Printers with the IBM 1240, 1440, and System/360 Model 30 Data Processing Systems.

It also discusses timing information for the printer and the tape-controlled carriage as well as their functional and operating characteristics. The speed of the printer using various character sets is also described.

**A24-3122 1443 Printer: Original Equipment 19  
Manufacturers' Information**

This manual contains information to assist those wishing to attach the 1443 to non-IBM equipment. It includes a general description of machine functions, a reference listing of publications and engineering documents, and information about machine interface not readily available in other publications. (Ref. Man. — 16 pages)

**A24-3143 1050 OEMI 19**

Explanation of each unit of the 1050 System, system configurations, BCD system coding and data flow charts.

Each wire of the interface is explained and a chart of the data-set interface gives the voltages for each interface wire.

Timing considerations of the system are set forth.

Line control, serialize-deserialize, control characters, and transmit and receive operations are explained with timing and data flow charts.

An explanation of the logic diagrams is given with examples of the symbols used.

This manual includes OEMI information pertaining to the following IBM 1800 units:

- 1816 Printer-KeyBoard
- 1053 Printer
- 1054 Paper Tape Reader
- 1055 Paper Tape Punch

**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 the 1620 or 1710 System.

An 1800 System feature provides control for the 1627 Plotter, therefore, the 1626 Plotter Control Unit is not used. (12 pages)

**A26-5918 1800 System Reference Manual 01**

This manual provides basic programming and operating information for the IBM 1800. Included are typical application areas, Processor-Controller instruction set, digital and analog input/output, and 1800/360 interface. The Appendixes provide hexadecimal to decimal conversion, and summary tables of the instruction set and instruction execution times.

**A26-5919 1800 System Configurator 00**

This configurator is a schematic illustration that shows all the units and features that can be used in an IBM 1800 System. Included are minimum and maximum capacities and prerequisites of the units and features.

**A26-5920 1800 System Summary 00**

This publication provides brief descriptions of the system concepts, units, features, and the available programs used in the 1800 System. The purpose of this

publication is to help the user achieve a basic understanding of the system and the interrelationship of its many parts.

Publications providing detailed information on the subjects discussed in this summary are listed in the *IBM 1800 Bibliography* (Form A26-5921).

**A26-5921 1800 System Bibliography 00**

See front cover for abstract.

**A26-5969 1800 System Data 03**

**Processing Input/Output Units**

This manual describes the 1800 System Data Processing Input/Output units, their operation, and programming. Character coding, input/output commands, and data flow are illustrated. The units described herein are:

IBM 1442	Card Read Punch
IBM 1443	Printer
IBM 2401/2402	Magnetic Tape Units
IBM 1816	Printer-KeyBoard
IBM 1053	Printer
IBM 1054	Paper Tape Reader
IBM 1055	Paper Tape Punch
IBM 2310	Disk Storage
IBM 1627	Plotter

**C26-5880 1800 Subroutine Library 30**

This publication describes the subroutines in the 1800 Subroutine Library. The library consists of the input/output, conversion, arithmetic and functional, and selective dump subroutines. Included in the descriptions are calling sequences for the subroutines and explanations of the parameter involved.

The section on conversion subroutines describes the codes used to communicate with the 1800 System input/output devices. An appendix lists the codes, and shows their relationship to each other.

**C26-5882 1800 Assembler Language 21**

This publication contains the necessary information to write programs in the 1800 Assembler language. Included are rules for statement writing, mnemonic codes and descriptions of operands, and descriptions of the instructions used to control the Assembler program. In addition, the manual contains a brief description of the operating procedures for the Card and Paper Tape Assembler Programs.



**C26-5905 1800 FORTRAN Language 25**

This publication presents the 1800 FORTRAN language and programming rules. The FORTRAN language closely resembles the language of mathematics and is designed to be used for mathematically-oriented computer applications.

**C26-5907 1800 Utility Routines 32**

This publication provides preliminary specifications for the IBM 1800 Utility Routines. Included is a description of the function of each routine and the general requirements for their use.

The Utility Routines comprise the following:

Input/output routine

Dump routines

Console routines

Loading routines

Each routine is contained in a separate card deck or paper tape.

**A26-5922 1800 System Installation 15**  
**Manual—Physical Planning**

This manual contains physical information for installing the IBM 1800 System, including floor planning and wiring; and electrical, environmental, and structural requirements.

**C26-5906 1800-2310 Monitor System 36**  
**Specifications**

This publication describes the 1800-2310 Monitor, a combined operating and programming system. Operating under control of a Supervisor Program are: a Disk Utility Program, a Symbolic Assembler, a FORTRAN Compiler, and the Subroutine Library. The Subroutine Library (supplied by IBM) contains routines for input/output, conversion, and arithmetic functions.

**C26-5945 1800 Time-Sharing 36**  
**Executive System**

This bulletin provides preliminary information concerning the IBM 1800 Time-Sharing Executive System, which is being developed. Detailed specifications will be issued at a later time.

The Time-Sharing Executive System is a real-time process-control programming system that affords the user an easy means of generating, testing, and executing a complete process-control program.

**X26-5908 1800 Assembler Coding Form 80**

This form is used to code 1800 System programs in assembler language. The form includes numbered and ruled fields to facilitate programming and punching.



**International Business Machines Corporation**  
**Data Processing Division**  
**112 East Post Road, White Plains, N. Y. 10601**

**Accumulative Index of Publications and Programs**

1. Form numbers of publications included in the 1800 Systems Reference Library are listed below. Abstracts will be found in the 1800 Bibliography, A26-5921-1 or in Section 2 of this Newsletter. Technical Newsletters -- Notices of changes and corrections to publications -- should be filed with the item to which they apply. New entries in this list are bracketed.

SUBJ CODE	FORM NUMBERS	TECHNICAL NEWSLETTERS	ABBREVIATED TITLE
00	GENERAL INFORMATION		
	A26-5919-2		1800 Configurator
	A26-5920-1		1800 System Summary
	A26-5921-1		1800 Bibliography
01	MACHINE SYSTEM		
	(A26-5918-2	N26-0138)	1800 System Reference Manual
03	INPUT/OUTPUT		
	A24-3041-2		1403-1443 Printers Form
	A24-3119-1		1442 Card Read Punch
	A24-3120-1	(N24-0323 N24-0342)	1445 Printer Models 1 & N1
	(A24-3120-2*	N24-0342	1445 Printer Models 1 & N1)
	A26-5710-0		1627 Plotter
	A26-5969-1	N26-0121	1800 System Input/Output Units
05	MAGNETIC TAPE		
	A22-6866-1	N22-0192	2400 Mag Tape 2816 Princ of Op
09	TELE-PROCESSING		
	A24-3020-3		1050 G.I. Manual
15	PHYSICAL PLANNING SPECIFICATIONS		
	A26-5922-1		1800 Installation Manual
19	ORIGINAL EQUIPMENT MANUFACTURERS' INFORMATION		
	A21-9002-0		1442 Card Reader Mod 3 OEMI
	A24-3122-1		1443 Printer OEMI 1442 Mod 1 & 2
	A24-3143-1	N24-0225	1050 OEMI
	(A26-3591-0		1801/02 Processor - CNTL OEMI)
	(A26-3626-0		2310 Mod A1-A2-A3 Disk Stor OEMI)
21	SYMBOLIC ASSEMBLY SYSTEMS		
	(C26-5882-2)		1800 Assembler Language
25	FORTRAN		
	C26-5905-2		1800 FORTRAN Language
30	INPUT/OUTPUT CONTROL SYSTEM		
	(C26-5880-2)		1800 Subroutine Library
32	UTILITY PROGRAMS		
	C26-5907-1		1800 Utility Routines
36	SUPERVISORS - MONITORS		
	C26-5936-1		1800-2310 Monitor System Specs
	C26-5990-0		1800 Time-Sharing Exec System Specs
80	INSTALLATION SUPPLIES		
	X26-3635-0		Data Acqu Analog Input Signal Chrt
	X26-3636-0		Data Acqu Analog Output Signal Chrt
	X26-3637-0		Data Acqu Digital Input Signal Chrt
	X26-3638-0		Data Acqu Digital Output Signal Chrt
	X26-5908-1		1800 Assembler Coding Form

Note - The Following Publications Are Superseded As Indicated.

03	N21-0011	N21-0015 N21-0018	Replaced by A24-3119-1
19	N24-0240		Replaced by A24-3122-1
36	C26-5945-1		Replaced by C26-5990-0

2. The Abstracts which follow are not included in the current issue of the Bibliography. New entries are identified by a vertical line to the left of the Abstract.

A26-3591-0 IBM 1801 AND 1802 PROCESSOR-CONTROLLERS ORIGINAL EQUIPMENT MANUFACTURERS' INFORMATION 19

This Original Equipment Manufacturers' information (OEMI) manual provides the definitions and functional descriptions of the interface lines for the IBM 1801/1802 I/O Interface. In addition, it contains electrical, mechanical, and cabling considerations and specifications of this interface.

A26-3626-0 IBM 2310 DISK STORAGE DRIVE, MODELS A1, A2, AND A3 ORIGINAL EQUIPMENT MANUFACTURERS' INFORMATION 19

This publication provides definitions and functional descriptions of the interface lines for the 2310 Disk Storage Drive. It also contains specifications, timings, and cable information.

C26-5990-0 IBM 1800 TIME-SHARING EXECUTIVE SYSTEM SPECIFICATIONS 36

This publication describes and illustrates the use of the IBM 1800 Time-Sharing Executive System. The calling sequences to all the programs are described in terms of the Fortran CALL statements. The Assembler language equivalents of the calling sequences are included in an appendix.

It is assumed the reader has knowledge of the 1800 Data Acquisition and Control System and the 1800 Fortran Language.

The 1800 Time-Sharing Executive System provides the user with an easy means of generating, testing, and executing programs for process control and data acquisition applications as well as nonprocess applications.

X26-3573-0 PHYSICAL PLANNING TEMPLATE 80

These transparent acetate sheets contain templates, drawn to 1/4 inch scale, for the IBM 1800 System units and associated Data Processing Input/Output units.

X26-3635-0 DATA ACQUISITION AND CONTROL SYSTEM - ANALOG INPUT SIGNAL CHART 80

This chart provides space for entering data concerning analog input signals to the 1800 system. The form should be filled out as completely as possible. Entries for each signal should be confined to one numbered line. Abbreviations can be used wherever appropriate.

X26-3636-0 DATA ACQUISITION AND CONTROL SYSTEM - ANALOG OUTPUT SIGNAL CHART 80

This chart provides space for entering data concerning analog output signals from the 1800 system. The form should be filled out as completely as possible. Entries for each signal should be confined to one numbered line.

X26-3637-0 DATA ACQUISITION AND CONTROL SYSTEM - DIGITAL INPUT SIGNAL CHART 80

This chart provides space for entering data concerning digital input signals to the 1800 system. The form should be filled out as completely as possible. Entries for each signal should be confined to one numbered line.

X26-3638-0 DATA ACQUISITION AND CONTROL SYSTEM - DIGITAL OUTPUT SIGNAL CHART 80

This chart provides space for entering data concerning digital output signals from the 1800 system. The form should be filled out as completely as possible. Entries for each signal should be confined to one numbered line.

Note - This SRL Newsletter was prepared on an IBM Magnetic Tape Selectric Typewriter.