IBM World Trade Data Processing

Program Announcement

S/360 Disk Operating System BTAM with 1130 Binary Synchronous Communications (BSC)

Availability of subject support, announced in P67-57, has been changed from September 20 to November 14. An appropriate P-letter with the basic programming material and ordering instructions will be published at that time.

Customers affected should be notified.

John Fahey
Director of DP Marketing

Note to World Trade Readers

This letter is a reprint of an IBM Programming Announcement and was mailed concurrently to USA and WT offices. The following changes, when appropriate, should be applied to the text for WT use.

[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

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Release Date: September 18, 1967

Distribution: All Areas

P67-101

System/360 Basic Programming Support

Version 1, Modification Level 0 for BPS/360 16K Initialize Disk (360P-UT-206) and BPS/360 16K Alternate Track Assignment (2311,2314), 360P-UT-207, is available. These programs are in support of the IBM 2311 Disk Drive and the IBM 2314 Direct Access Storage Facility.

16K Initialize Disk (2311/2314)

The program will perform all of the functions of the Initialize Disk Program (360P-UT-069) with these improvements:

1) Perform surface analysis of only those tracks not previously flagged as defective. The tracks already flagged as defective are left unchanged.
2) Optionally, perform surface analysis of all tracks, including those tracks previously flagged as defective.
3) Flag individually specified tracks as defective without performing surface analysis.
4) Optionally, perform the surface analysis of each track up to a total of 255 times.
5) Perform initialization of from one to five 2316 Disk Packs mounted on the IBM 2314.

The selection of functions to be performed is indicated on a utility modifier statement inserted in the program deck by the user.

16K Alternate Track Assignment (2311/2314)

The program will perform all of the functions of the program, Alternate Track Assignment Program (360P-UT-098) with these improvements:

1) The specified track will be flagged defective and an alternate track assigned without performing surface analysis of the specified track.
2) Optionally, surface analysis will be performed on the specified track (or its assigned alternate) and an alternate track will be assigned only if the surface analysis fails.
3) Optionally, remove the defective indication from the specified track and unassign the alternate track.
4) Optionally, perform surface analysis of the specified track up to a total of 255 times.
5) Perform the selected functions on either an IBM 2311 or an IBM 2314.

Selection of the added options is indicated through additional parameters in the utility modifier statement.

Minimum System Requirements:

- System/360 with 16K Main Storage.
- Card Reader (1442, 2501, 2520 or 2540).
- Printer (1403, 1404 (Continuous Forms), 1443, 1445 or 1052).
- Disk Drive (2311 or 2314)

Performance

360P-UT-206 Requires approximately 7 minutes to initialize a 1316 Disk Pack when performing surface analysis once per track. Increasing the number of times surface analysis is performed adds approximately 5 minutes per additional repetition.

Initialization of a 2316 Disk Pack requires approximately 14 minutes for one execution of surface analysis. Each additional repetition of surface analysis adds approximately 10 minutes.

360P-UT-207 Requires approximately 90 seconds to assign an alternate track and move the data records from the defective track to the alternate. If the surface analysis option is selected, an additional 200 milliseconds per repetition is required.

CONTENTS

BPS/360 16K Initialize Disk and 16K Alternate Track Assignment ... Version 1 Modification 0 is available.

Published by DP Sales Publishing Services, WTHQ

Basic Program Materials for each of these programs consist of:

SRL Publications -- System/360 Basic Programming Support, DASD Utility Programs Specifications, C24-3363-4 and TNL N21-5075 ... System/360 Basic Programming Support, DASD Utility Programs Operating Guide, C24-3392-6 and TNLs N21-5057, N21-5062.

Documentation -- Program Material List.

Machine Readable -- The assembled decks for each program are available on one 9-track DTR (800 or 1600 bpi) or one 7-track DTR (800 cpi) or in card form.

Ordering Procedure: See DP Sales Activity section of the Branch Office Manual. A separate program order card must be submitted to PID for each program.

If only the publications or if additional copies of the publications are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

When ordering, if the distribution medium is not specified on the back of the program order card, 9-track at 800 bpi will be forwarded.

Card deck will be supplied only to users who do not have magnetic tapes available. DTRs are provided by PID; no tape submittal is required.

John Fahey
Director of DP Marketing

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Attachments [7]: [1 thru 5] P 360N.1, 3, 5, 7, and 9, [6 and 7] P 1130.1 and 3.

Release Date: September 20, 1967

Distribution: All Areas

P67-103

IBM World Trade **Data Processing** Program Announcements

Contents

On-Line Test Executive Program (OLTEP) ... new program that allows testing of S/360 I/O devices (A)

OS/360 BTAM/QTAM Autopoll ... 2702 Autopoll feature added (B)

Published by DP Sales Publishing Services, WTHQ

ON-LINE TEST EXECUTIVE [A]

The On-Line Test Executive Program (OLTEP), together with associated on-line unit tests*, allows testing of System/360 I/O devices while operating under control of the Operating System/360 supervisor. The entire system need no longer be stopped to:

Ascertain the condition of an I/O unit.
Provide program assistance in making adjustments.
Exercise a malfunctioning I/O device to further define the cause of the malfunction.
Verify a repair action prior to the VARY on-line command.

OLTEP runs as a normal job under OS/360. When OLTEP is running, "on-line" unit tests can be run on I/O devices which have been VARYed (logically switched) off-line.

* Unit tests, as they become available for your system, are obtain from the local CE.

Availability October 31, 1967.

OLTEP Requirements

Requires the standard system residence device and space on auxiliary storage for these data sets:

System input
OLTLIB (Unit tests)
Print output

Approximately 14,000 bytes of core storage are required for OLTEP with an additional 4,000 bytes for the associated unit test to be run. These unit tests are executed one at a time for a given device and therefore 18K is the maximum main storage requirement. Approximately 350K bytes of external DASD storage are required if all I/O unit tests are desired.

Although OLTEP is designed for use by the CE during customer operation, concurrent operation somewhat reduces the system capability available to the customer.

Publications

IBM System/360 Operating System, On-Line Executive Program, C28-6650-0, and a PLM with the same title which will be announced in a future Publication Release Letter.

OS/360 BTAM/QTAM AUTOPOLL [B]

Programming support for the 2702 Autopoll Feature (#1319) is being added to OS/360 QTAM and BTAM. The support and its availability, October 31, 1967, is the same as that previously announced for the 2703.

The programming support for the Autopoll feature can significantly reduce the amount of CPU interference caused by non-productive polling. (Polling of terminals which have nothing to transmit.)

Note: For use on Model 65, 67 (65 mode) and 75 the OS/360 BTAM and QTAM Autopoll Programming Systems support requires Engineering Change 705801 installed on the 2870 Multiplexer Channel. This Engineering Change will not be initially available until December 1967, and all installations will not be completed until February 1968. Until the availability and installation of this Engineering Change, the System/360 Models 65, 67 (65 mode) and 75 cannot use the Autopoll Feature.

Publications

IBM System/360 Operating System Queued Telecommunication Access Method Message Control Program, C30-2005 ... IBM System/360 Operating System Basic Telecommunication Access Method, C30-2004.

John Fahey
John Fahey
Director of DP Marketing

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS"

Release Date: September 21, 1967
Distribution: All Areas

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P67-104

IBM World Trade Data Processing

Program Announcement

SYSTEM/360 SHARED HOSPITAL ACCOUNTING SYSTEM (SHAS)

CONTENTS

System/360 SHAS ... changes in configuration.

Published by DP Sales Publishing Services, WTHQ

The minimum configuration for System/360 SHAS has been changed; therefore, this letter supersedes the announcements in P67-5 and P67-6[C].

The changes are:

> The External Interrupt (#3895) on 2030F Processing Unit, File Scan (#4385), Record Overflow (#6118) on 2841 Storage Control Model 1 and High Speed Skip (#4595) on a remote 1056 Model 1 Card Reader have been eliminated. Hospital 1051 Control Unit and 1052 Printer-Keyboard have been changed to Model 2. Floating Point Arithmetic (#4427) on 2030F Processing Unit and a System control terminal, 1051 Model 2 Control Unit and 1052 Model 2 Printer Keyboard have been added to the minimum configuration. The minimum configuration has also been expanded to include either the 2701 Data Adapter Unit with Terminal Adapter Type I (#4645) and IBM Line Adapters as required, or the 2702 Transmission Control with Terminal Adapter - Type I (#4615), Selective Speed (#9684) and IBM Line Adapters as required.

SHAS opens new marketing opportunities for hospitals considered too small for their own data processing system. Shared Hospital Accounting System will facilitate the sale and installation of shared systems for groups of hospitals ... hospital associations ... cooperative hospital groups ... larger hospitals cost sharing with one or more smaller hospitals ... associated hospital service organizations.

SHAS, as formerly announced, will be available 2Q 68. It will provide hospital accounting for the multiple hospital environment. Tele-processing terminals connect the central computer to the member hospitals. The application programs are Patient Billing, Accounts Receivable and General Ledger, including cost allocation for Medicare. Accounting for both inpatients and outpatients is provided. SHAS also determines Medicare insurance proration, facilitating the preparation of the Medicare Inpatient and Outpatient billing forms.

Customers affected by these changes should be notified promptly.

For further information contact your Medical Industry Marketing Representative.

John Fahey
Director of DP Marketing

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS"

Attachments [5]: [1 and 2] P 360B.1 and 3 ... [3 and 4] P 360F.1 and 3... [5] P 360M.1.

Release Date: September 25, 1967

Distribution: All Areas

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IBM World Trade **Data Processing**

P67-105

Program Announcements

CONTENTS

1130 Remote Job Entry ... to provide use of 1130 system as remote station to enter OS/360 jobs. [A]

System/360 Model 44 Programming System ... Release 2 available. [B]

Published by DP Sales Publishing Services, WTHQ

IBM 1130 Remote Job Entry [A]

The 1130 Remote Job Entry Work Station Program provides the ability to use the IBM 1130 Computing System as a remote work station to enter OS/360 jobs to be executed at a central computing facility, and to receive the job output.

The 1130 RJE program provides three basic functions:

1. Input of OS/360 jobs and RJE commands through an attached input device.
2. Data transmission to and from the central processor.
3. Data output to an attached printer, punch, or disk.

OS/360 jobs are entered through the card reader or from disk storage. Work station commands are entered from the card reader, disk storage, or the console-keyboard.

Job output is directed to the printer, punch, or disk storage. If desired, disk output may be replaced by a user-written output routine. Messages are sent to the console-printer or the line printer.

The work station program operates under the 1130 Disk Monitor System, Version 2. Communication is over a 1200, 2000 or 2400 bps line, point-to-point or multipoint,* operating in binary synchronous mode. The program operates in conjunction with the Remote Job Entry program under OS/360 (MVT) at a central System/360 Model 50, 65, 67 (operating in 65 mode), or 75.

*The initial OS/360 RJE capability which included multipoint operation with the IBM 2780 data transmission terminal was announced in P67-77, and is described in the SRL IBM System/360 Operating System: Remote Job Entry, Form No. C30-2006.

In multipoint operation, 2780's and 1130's cannot be mixed on the same multipoint line. However, a configuration can include different types of terminals (1130, 2780, S/360) on separate lines.

Availability

Point-to-point	July 31, 1968
Multi-point	October 31, 1968

Equipment Configuration

The program requires an 1130 with internal disk storage and 8K words of main storage. If user-written routines are included, at least 16K words of main storage are required. The minimum system requires a card reader, card punch, line printer, and Binary Synchronous Communications adapter.

I/O devices supported are:

1442 Mdl 6 or 7 Card Read Punch	1403 Mdl 6 or 7 Printer
2501 Model A1 or A2 Card Reader	Multiple 2310 Disk Drives
1442 Model 5 Card Punch	Console Keyboard and Printer
1132 Printer	

The system components are utilized as follows:

Card Reader, Punch, and Line Printer

The RJE Work Station Program will use the card I/O device(s) and line printer assigned to the Disk Monitor as Principal I/O Device and Principal Print Device.

Disk Input

Disk input may be from either the internal disk cartridge or any one of the external disk cartridges. The location of disk input data is specified by control records in the Job Stream, and so can be changed while the Work Station Program is in operation.

Disk Output and Communication Line

The following device options are initialized by a special program provided for that purpose. They cannot be dynamically changed when the Work Station Program is active.

Disk Output: Space on either the internal disk cartridge or any one of the external disk cartridges may be specified.

Communication Line: Point-to-point non-switched, switched, or multipoint may be specified.

Publications

A TNL to IBM System/360 Operating System: Remote Job Entry, C30-2006, which will contain a description of the program and the operation of the 1130 as a remote work station, will be announced in a future publication release letter.

IBM System/360 Model 44 Programming System [B]

Release 2 of the System/360 Model 44 Programming System is available in addition to maintenance improvements, it includes the following usability improvements:

- Elimination of the DOS compatibility restriction.
- Improved performance and a batching facility within the FORTRAN IV compiler.
- An Additional ADD and SUB processing facility.
- Unlabeled tape processing within a label tape environment.

See P67-75 or P 360F.1 - P 360F.3, programming section of the sales manual for a detailed detailed description of this program.

Reference Material: System/360 FORTRAN IV Language, C28-6515-4 and TNLs N28-0210, N28-2147 ... System/360 FORTRAN IV Library Subprograms, C28-6596-2 ... System/360 Model 44 Programming System Concepts and Facilities, C28-6810-1 and TNL N28-0562 ... System/360 Model 44 Programming System Assembler Language, C28-6811-1 ... System/360 Model 44 Programming System Formats for Machine Check Interruption Diagnostics - Reference Card, X28-6812.

Basic Program Material

SRL Publications -- System/360 Model 44 Programming System Guide to System Use, C28-6812-1 and TNL N28-0560 ... Guide to System Use for FORTRAN Programmers, C28-6813 and TNL N28-0559 ... Systems Programmer's Guide, C28-6814 and TNL N28-0561 ... Operator's Guide, C28-6815-1.

Documentation -- Program Material List.

Machine Readable Material -- The Absolute Component Program Decks and the Relocatable FORTRAN Library are available on one DTR, either 9-track (800 or 1600 bpi), or 7-track (800 cpi, Data Conversion feature required) or in card form. Directions for using the Sample Program Input Deck are contained within the basic publication, System/360 Model 44 Programming System, Systems Programmers' Guide, C28-6814.

Ordering Procedure: Current users of the program will receive a prepunched program order card and a letter announcing the availability of the new release instructing them to order the new release through the branch office, using this prepunched program order card. For new users, follow the procedures outlined in the DP Sales Activity section of the Branch Office Manual.

If only the publications or if additional copies of the publications are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

If the distribution medium is not indicated on the back of the program order card, 9-track at 800 bpi will be forwarded.

Card decks will be supplied only to users who do not have magnetic tapes available.

DTRs are provided by PID; no tape submittal is required.

John Fahey
Director of DP Marketing

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P 67-106

IBM World Trade **Data Processing**

Program Announcement

CONTENTS

1800 Multiprogramming Executive System (MPX) ... available July 1968.

Published by DP Sales Publishing Services, WTHQ

IBM 1800 MULTIPROGRAMMING EXECUTIVE SYSTEM (MPX)

Available July 1968. The IBM 1800 Multiprogramming Executive System is a real-time multiprogramming operating system capable of maximizing the efficiency and throughput of the IBM 1800 Data Acquisition and Control System computer. It is designed to asynchronously time-share several independent processes with concurrent background batch processing functions. The increased throughput provided by MPX is accomplished through sophisticated input/output handling techniques making the central processing unit available during all I/O operations. The capability exists for the MPX system to be configured into a maximum of 26 unique multiprogramming areas.

MPX control programs are designed modularly to provide extended flexibility in covering a wide spectrum of applications, thus minimizing the probability of user modifications due to unique application requirements.

Multiprogramming is achieved through the use of the programmed settable interrupt feature in the 1800 hardware, eliminating time consuming list searching techniques. The major objective within the design of MPX is the minimization of overhead, or unproductive processing.

The MPX operating system helps the user keep more of the total system busy performing more productive work more of the time. Among the services provided by MPX to allow concurrent operation are:

- Loading programs and routines into main storage.
- Scheduling the use of programs and routines in main storage.
- Switching control of the processor-controller from one function to another, based on I/O operation.
- Controlling the execution of the various functions in accordance with a flexible hierarchy of priorities.

Advantages

- High throughput
- Fast response
- Efficient use of Processor-Controller time
- Ease in time-scheduling program execution
- Ability to modify in-core user written routines on-line
- Ability to modify IBM system programs on-line
- Ability for the IBM Field Engineer to run on-line diagnostics for the 1442 Card Read Punch, 2310 Disk Storage Drive, 1053 Printer, and analog input (Direct Program Control)
- Time-sharing of multiple foreground (Process) and background (batch processing monitor) operations

The IBM 1800 MPX is a "n" area multiprogramming system. (Where "n" is determined as 27 minus the number of levels used by I/O devices.) Multiprogramming is regulated on the basis of I/O operation; when an I/O operation is initiated in one area, that area is put in a suspended state until the I/O operation is completed and during this time, a program in a lower priority area is executed. The programmed interrupt feature is used by the system to regulate level of operation, and thus to determine which area is in execution at any given time. In this way, the 1800 hardware is utilized to achieve multiprogramming.

The system also provides for queuing of I/O operations and allows the user to achieve maximum overlap of I/O and computing. On the lowest level of operation, a batch processing monitor is provided. With the batch processing monitor, programs may be assembled or compiled or user core loads may be executed.

Minimum System Requirements

To obtain the full capabilities of the IBM 1800 Multiprogramming Executive System, the machine configuration should be at least: an 1801/1802 Processor-Controller with a minimum of 24K words of core storage ... 1053 Printer or IBM 1816 Printer-Keyboard ... 1442 Card Read Punch ... 2310 Disk Storage Unit, Model A2 or C2.

The system can support an 1801 or 1802 Processor-Controller with 16K of core storage, one 2310 Disk Storage Drive, a 1053 Printer and a 1442 Card Read Punch for very limited MPX functions.

Machine Features Supported

In addition to the above, the optional machine units and features supported by the MPX system are: Process-Controller with 32K words of core storage ... up to eight 1053 Printers ... up to three 2310 Disk Storage Drives ... a 1443 Printer ... up to two 2401 Magnetic Tape Units ... 1627 Plotter ... 1054 Paper Tape Reader ... 1055 Paper Tape Punch ... Analog Input ... Digital Input ... Analog/Digital Output ... a second 1442 Card Read Punch.

Publications

MPX System Introduction C26-3718-0 ... MPX Programmer's Guide available January 1968 ... MPX Subroutine Library available February 1968.

MPX System Generation & Operating Procedures and MPX Program Logic Manual will be available with the delivery of the program.

John Fahey
Director of DP Marketing

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CONTENTS

IBM Retail IMPACT System ... availability dates changed. [A]

IBM PROSPRO/1800 [1800-CC-02X] ... an application program now available. [B]

Published by DP Sales Publishing Services, WTHQ

IBM Retail IMPACT System [A]

Program Announcement P67-14 placed open availability dates on the OS/360 version of the Retail IMPACT Staple System and the DOS/360 version of the Staple and Fashion Systems. The 4Q 1967 availability date announced in June 1966 for the OS/360 Fashion System was retained.

Current evaluation of progress being made on the OS/360 Staple System indicates that this system will be available 1Q 1969. The OS/360 Fashion System will be available December 1967.

In summary, the availability of the Retail IMPACT Systems will now be:

OS/360 Version

1. Retail IMPACT Fashion System — December 1967
2. Retail IMPACT Staple System — 1Q 69

DOS/360 Version

1. Retail IMPACT Fashion System — Availability date to be announced 4Q 67 (unchanged)
2. Retail IMPACT Staple System — Availability date to be announced 4Q 67 (unchanged)

Customers affected by these changes must be notified promptly. For complete details see the sales manual text printed below. For further information contact your Industry Marketing - Distributon Representative.

Sales Manual Text

Retail IMPACT System: Retail IMPACT is a total inventory management system designed specifically for the Retail Industry. Two independent systems are provided: one applies to staple merchandise and the other to fashion. These two systems enable Retail Management to increase the opportunity for sales by increasing the availability of merchandise and at the same time to maintain a balanced inventory consistent with management objectives. They also provide for effective highlighting of items requiring action to maximize the profit potential in a department.

Description - Staple System: This system uses an advanced forecasting sub-system which employs adaptive forecasting, probability and statistical science with appropriate decision rules to forecast demand, determine order points, and order up to levels. An advanced control sub-system is provided tailored to the needs of the Retail Industry which creates purchase orders, controls merchandise on order and monitors the performance of the system in terms of inventory and level of service.

Provision is also made for simulation of the effect of a number of management policies as well as for projecting demand and inventory behavior over an extended period resulting from a particular policy or set of policies. This feature enables management to establish a priority for departments to be implemented and obtain an estimate of the system's potential in these departments. The system substantially reduces the difficulty of maintaining large inventories in multiple locations, typical of today's retail industry. For the first time retail management can achieve the highest possible level of service for a specific level of inventory.

Optimum use of the system is achieved through the capture of daily sales information at the point of sale. For those few classes of merchandise or departments where the direct capture of daily SKU data is not feasible, the user may wish to employ stock counts to derive periodic sales.

Appropriate documentation and interfaces are provided so that the Retail IMPACT Staple System can be used in conjunction with the customer's own stock counting procedures. Certain types of output, such as daily service measurement cannot be provided if stock counting is employed.

Features: An advanced Forecasting Sub-system which employs Adaptive Forecasting, Probability and Statistical Science for determining trends and seasonal behavior, editing "bad" data, and handling high and low volume items ... initial forecasting "models" developed automatically from sales history, buyer estimates, or by adapting models taken from similar items ... automatic correction and signaling of significant variation in items sales patterns ... purchase order creation for forecasted items ... on-order control ... vendor lead time control by signaling irregular lead times or changes in lead time patterns ... comprehensive file maintenance to replace manual records ... source records available for additional reports ... continual system monitoring of service level, inventory investment and sales ... store performance report for each department ... simulation - before and after installation - for determining effects of alternative management policies.

Description - Fashion System: This system utilizes probability science to help the buyer respond quickly to styles performing significantly above or below other similar styles, based on their profitability. The maintenance of complete records at the style level eliminates tedious and sometimes inaccurate updating of manual records. Appropriate documentation and interface are provided for the user who wishes to maintain size and color detail. The combination of exception reporting and automatic maintenance of style records reduces the amount of clerical effort on the part of the buyer and his staff, and enables them to achieve optimum results by concentrating on the creative aspects of fashion merchandising.

Features: Automatic recommendations for re-order, return, markdown and transfers based on sophisticated statistical techniques which accurately analyze the potential of a style, early in its life ... the basic yardsticks used for making recommendations are dynamic class (or group) standards, based on profitability (which reflects the interaction of turnover and markup) to respond to the over-all seasonal changes ... automatic maintenance of files to replace manual records at the style level ... status inquiry at buyer request (vendor status, etc.) ... various merchandise management reports can be created from the style master records (aging, stock status, etc.)

Use: These systems are designed to initialize and operate a complete department. The library programs do both the initializing and regular operation. The user does not have to write any programs to use the systems. However, the user may desire to modify the operational programs in the Staple Control Subsystem and Fashion reporting areas and will probably write additional programs to extend the reports produced by the system.

Additionally the user may wish to employ the forecasting subsystem to aid in developing seasonal forecasts as inputs to the planning process at the department and class level. Appropriate documentation and interfaces to the forecasting subsystem are provided.

Customer Responsibilities:

1. Program Requirements -- In general the staple and fashion systems are complete systems. However, since some users may have unique requirements in the way of significant transactions or reports, etc., some minor additions to the Retail IMPACT Programs may be necessary. The following represent areas where user-generated programs may be required.

   Changes to existing output of Retail IMPACT -- As an example, a basic purchase order is provided as a part of the staple system. If the user desires his own purchase order format, a program must be provided by the user to print in his format from the files that contain the Retail IMPACT purchase order information.

   Additional Merchandise management reports -- The user may wish to produce merchandise management reports beyond the basic reports provided by the staple and fashion systems. The user of report generation techniques makes the production of many additional reports feasible.

   Any modification to the standard Retail IMPACT Program -- As an example, any transaction unique to a particular user would require a user-written modification. Users of the Fashion System who desire complete Black Book replacement, and/or maintenance of summary records, users of the Staple System who desire stock count inputs, and users who wish to employ the Forecasting Sybsystem to aid in developing planning forecasts, will need to write required I/O and file maintenance routines. Appropriate flowcharts and interfaces to the Staple Control Subsystem, the forecasting subsystem and the Fashion System are provided.

2. Staffing -- Capable user personnel are requisite to positive results. Needed to insure Retail IMPACT System benefits are the following -- Top Management Representative ... Project Director ... System Analysis ... System/360 Programmers ... and Clericals.

   The description of their needed qualification and their duties is detailed in Chapter 11 of the Application Description Manual.

3. Education -- Knowledge of the Retail IMPACT System, its implementation requirements and its operation is achieved by user personnel through attendance in the following schools -- 2½ day Executive Retail IMPACT System ... 5 day Retail IMPACT System Implementation - Fashion ... 10 day Retail IMPACT System Implementation - Staple.

4. Evaluation -- A very important responsibility of the customer is to establish a base for comparison of Retail IMPACT System results with those of the system replaced. Sales, inventory, and level of service represent minimum parameters for comparison. Further information regarding the need to evaluate and techniques for evaluation is detailed in Chapter 11 of the Application Description Manual.

Programming System: The programs are designed to operate under the OS/360, PL/1 Level F; or DOS/360, PL/1.

Minimum System/360 Configuration for Fashion under OS/360 or DOS/360, PL/1 and Staple under DOS/360, PL/1: System/360 Model F30 (65K) with Decimal Arithmetic (#3237), Floating Point Arithmetic (#4427), 1051 Attachment (#7915) ... 1051 Control Unit Model N1, 3130 CPU Attachment (#3130) ... 1052 Printer-Keyboard Model 8 ... 1442 Card Read Punch Model N1 ... 1443 Printer Model N1 with Selective Character Set (#6402) and the 63 Character Set Type Bar (#9089) ... 24 Additional Print Positions (#5558) ... 2841 Storage Control ... 2311 Disk Units (4 required) ... 2415 Tape Unit Model 1.*

Release Date: September 29, 1967
Distribution: All Areas

Minimum System/360 Configuration For Staple under OS/360, PL/I: System/360 Model G 40 (131K) with Decimal Arithmetic (#3237), Floating Point Arithmetic (#4427), 1052 Adapter (#7920) ... 1052 Printer-Keyboard Model 7 ... 1442 Card Read Punch Model N1 ... 1443 Printer Model N1 with Selective Character Set (#6402) and the 63 Character Set Type Bar (#9089) ... 24 Additional Print Positions (#5558) ... 2841 Storage Control ... 2311 Disk Units (4 required) ... 2415 Tape Units Model 1.

Reference Material: Application Description "Retail IMPACT - Inventory Management Program and Control Techniques" (E20-0188-1).

Contact your Industry Marketing Representative for Distribution for further information.

*Users operating the Fashion System who do not intend to implement "Black Book" replacement, summary files, or the Staple System will require one less tape or disk.

IBM PROSPRO/1800 [B]

Process control users now have a unique programming system tailored to their needs. This system can eliminate most of the programming effort associated with installation of a process control system. The PROSPRO/1800 system is now available. (1800-CC-02X)

PROSPRO/1800 is a real-time on-line system for implementing the control of continuous processes.

By utilizing the "fill-in-the-blanks" technique, the user can describe the process and develop the control scheme. The process engineer, through the use of forms, can specify the frequency at which a process variable is to be read, its alarm limits, the alarm actions and control strategies. The mathematical models the customer develops may be programmed within the PROSPRO language, or as special programs written in Assembler Language or FORTRAN.

The system receives its process data and control instructions from cards punched according to the entries on the forms. The various tables, data records and control schemes are automatically generated by PROSPRO/1800.

Expected frequent modifications in the process or the control strategy are easily accommodated by PROSPRO/1800.

No knowledge of computer programming is required to fill in the forms.

See the sales manual text printed below for additional information, ordering procedure, and description of the programming material. For further information contact your Regional Control Systems Marketing Representative.

Sales Manual Text

PROSPRO/1800: A real-time on-line system for implementing control of continuous processes. By using the "fill-in-the-blanks" technique, the user can describe the process and develop the control scheme. The system receives its necessary process operating data and control instructions from cards punched according to the entries on standard data forms. The various tables, data records and control schemes required by the system are automatically generated by PROSPRO/1800 and become operational.

Expected frequent modifications in the process and the control strategy are easily accommodated by PROSPRO/1800.

No knowledge of computer programming is required to complete the forms. However, special programs can be written in Assembler Language or FORTRAN and added to PROSPRO/1800. (1800-CC-02X)

Features: Organization of engineering and control information by providing "fill-in-the-blanks" forms ... versatile programs to process information effectively and to execute control actions consistently ... accommodation of special programs (written in FORTRAN or Assembler Language) to fulfill more complex requirements ... simplification of program modification and maintenance in addition to initial system generation ... uniform and complete system documentation.

Special Sales Information: PROSPRO/1800 substantially reduces the customer programming effort, provides the user with versatile control schemes, and offers the user a means to implement his own control strategy.

Use: Using the Language Specification Manual, the customer fills out the data forms with information on each variable (processing frequency, maximum and minimum limits, etc.) and control action (constants, type of control, etc.). The information is punched into cards, and entered into the 1800 through the card reader. PROSPRO/1800 reads the cards and builds various data tables. These data tables provide the necessary logic and constants used during execution of the program. The forms become the documentation of the process control application. Changes may be made by entering new and/or different data cards.

Customer Responsibilities:

- Know the process to be controlled and the desired control strategy.
- Describe the process and the control action using the standard data forms.
- Write any routines for functions not handled by the PROSPRO/1800 system.
- Develop any mathematical models that may be required.

Programming System: PROSPRO/1800 operates under the IBM 1800 Time-Sharing Executive System (TSX). The application programs are written in Assembler Language or FORTRAN.

Minimum System Requirements: 1801 or 1802 Processor-Controller Model 1C or 2C, 1442 Adapter (#4430), two Data Channels (#3222), Analog Input Data Channel Adapter 1 (#1233), Analog Input Data Channel Adapter 2 (#1234), Digital and Analog Output Data Channel Adapter (#3290), Analog-Digital Converter Model 1 or 2 (#1231 or #1232), Comparator (#2185), Digital Output Control (#3296)†, Digital Output Adapter (#3295)†, Pulse Output (#5863)† ... 1816 Printer Keyboard ... 1826 Data Adapter Unit† ... 1828 Enclosure† ... 1851 Multiplexer Terminal†... 2310 Disk Storage Model A1 ... 2315 Disk Cartridge ... 1442 Card Read Punch Model 6 or 7.

Other input/output units may be specified to satisfy individual user requirements. Consideration should be given to a Model A2 or A3 2310 Disk Storage for applications with large numbers of variables and/or complex control actions and user-written routines.

†The number required depends on the specific application.

The PROSPRO/1800 System normally uses analog signals as measured variables, and set-point positioners for control output. The set-point positioners must be equipped with feedback to the computer of the actual value of the set-point.

Basic Program Material:

Publication(s)* -- Application Directory ... Users Manual (H20-0474) ... Process Operators Manual (H20-0472).
Machine Readable -- System generation decks which include control cards and object programs are available in card form.

Optional Program Material:

Machine Readable** -- One 9-track DTR (either 800 bpi or 1600 bpi) containing the source Language decks.

Ordering Procedure

See the DP Sales Activity Section of the Branch Office Manual

*If only the publication or if additional copies of the publication are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

**When ordering this program, if the distribution medium is not specified on the back of the program order card, 9-track at 800 bpi will be forwarded. DTRs will be provided by PID; no tape submittal is required.

Additional Program Support Material:

Application Description Manual (H20-0261), System Manual ... Language Specification Manual (H20-0473) ... Data Forms.

For further information contact your Regional Control Systems Marketing Representative.

John Fahey
Director of DP Marketing

Note to World Trade Readers

This letter is a reprint of an IBM Programming Announcement and was mailed concurrently to USA and WT offices. The following changes, when appropriate, should be applied to the text for WT use.

[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

[2] Advance copies of the form numbered publications mentioned in the above either have been shipped (with additional copies available from the IBM Distribution Center, Mechanicsburg, Pennsylvania) or will be shipped when available. In the case of the later, availability will be announced in the Weekly DP Marketing Publications Release Letter.

[3] When a new version of a program is announced current users must order it; they will not receive it automatically nor will they necessarily receive a prepunched request card in their Area.

[4] If DTR distribution is indicated in the above, program distribution media may be different in your area based on local conditions.

[5] All references made to the Program Information Department (PID) should be understood to mean the appropriate WT Program Library.

[6] Any reference made to DPD Departments (or Regions) as sources of information or for manuals etc. should be understood to mean the comparable WT Department (or corresponding organizational level).

[7] Communications facilities or services may be required which are not offered in all WT countries. In case of any doubt as to the availability of suitable communications facilities, the country Teleprocessing Coordinator should be consulted.

[8] References made to Engineering Change requirements should be verified with the local CE office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

IBM SYSTEM/360 MORTGAGE LOAN PROGRAM [A]

The IBM System/360 Mortgage Loan Program, 360A-FB-19X, may now be ordered. First shipments will begin the week ending October 6. This program is designed to provide the major processing for mortgage loan accounting operations at mutual savings banks, savings and loan associations, commercial banks, mortgages servicing companies, and other users. It will aid significantly in minimizing the time, expense, and effort in converting from Punched Card Data Processing or earlier generation computers to System/360.

The Mortgage Logging and Inquiry Transaction for S/360 On-Line Teller program was withdrawn in P67-17. Consequently, the inquiry memo file has not been provided in the S/360 Mortgage Loan program. Customers affected by this change should be notified promptly.

Description

The package of programs encompasses the prime requirements for mortgage loan processing. Customer requirements for this important banking service have determined the program capability and processing logic. These include coupon or monthly billing, calculation of accrued interest, aged analysis of delinquent accounts to determine slow loans. Provision has been made to handle partial payments, arrears payments, advance payments, and special payments (debit and credit) to principal, interest, and individual escrow balances. In addition, there is provision for: (1) portfolio analysis, (2) other satistical studies, and (3) meeting the reporting requirements of the Federal Home Loan Bank Board. Audit control is maintained on all transaction input and mortgage loan master file. For maximum efficiency in processing, the program maintains two files -- the Mortgage Loan Master File and the Transaction History File. Provision has been made for detailed analysis of daily transactions and their impact on all loan balances.

The system provides for servicing investor accounts with the necessary related reports. It is geared to handle many of the irregular transactions such as advance payments, arrears payments, and other types of non-standard payments.

Extensive audit control procedures are maintained throughout all programs and attention is focused immediately on unusual conditions that may arise in individual accounts or control records.

The sales manual text below contains additional details. For further information contact the Regional Finance Industry Representative.

Sales Manual Text

Mortgage Loan: Has been designed to provide the major processing for mortgage loan accounting operations at mutual savings banks, savings and loan associations, commercial banks, mortgage servicing companies, and other users. It will aid significantly in minimizing the time, expense, and effort in converting from Punch Card Data Processing or earlier generation computers to System/360. The requirements and processing logic for this program have been derived from customer needs, information and input required for this important banking service. [360A-FB-19X]

Description: The package of programs encompasses the prime requirements for mortgage loan processing. These include coupon or monthly billing, calculation of accrued interest, aged analysis of delinquent accounts to determine slow loans. Provision has been made to handle partial payments, arrears payments, advance payments, and special payments (debit and credit) to principal, interest, and individual escrow balances. In addition, there is provision for: (1) portfolio analysis, (2) other statistical studies, and (3) meeting the reporting requirements of the Federal Home Loan Bank Board. Audit control is maintained on all transaction input and Mortgage Loan master file. For maximum efficiency in processing, the program maintains two files -- the Mortgage Loan Master File and the Transaction History File. Provision has been made for detailed analysis of daily transactions and their impact on all loan balances.

The system will provide for servicing investor accounts with the necessary related reports. It is geared to handle many of the irregular transactions such as advance payments, arrears payments, and other types of non-standard payments.

Extensive audit control procedures are maintained throughout all programs and attention is focused immediately on unusual conditions that may arise in individual account or control records.

Features: This program contains the latest features and innovations introduced by leading institutions throughout the country. It is designed to accommodate the varied and changing requirements dictated by management policy, marketing strategy, and state laws. The individual user may make initial or future modifications to the programs with minimal effort and expense because of two interrelated design factors --

(1) Records are variable in structure and length, with many separate trailer segments that reflect mortgage and investor data or functions that may vary from user to user. This allows the user to tailor his record at conversion time to his individual needs.

Dynamic expansion and contraction of the record for shortage, arrears, advance payment conditions, etc., are provided for under program control. Individual statistical requirements can be added and maintained in the form of user designed and supported trailer segments.

File storage requirements are reduced since each record contains only those fields that are pertinent to it.

(2) Modular programming allows each routine to be directly linked to its related trailer segment, and the program provides clearly defined entry and exit points. Program options are available for the user to specifiy frequency or calendar-scheduling of functions, runs, and report preparation.

Additional reports may be prepared by the user with the IBM Basic Operating System/360 (8K Disk Resident) Report Program Generator from generalized report records provided by the Mortgage Loan Program.

Advantages: Management Controls -- The system design is truly open-ended permitting management to maintain additional statistical data of its own choosing. By analysis of both the accounting and statistical data contents of individual loan records, all types of portfolio analysis and reports can be prepared. Delinquency is detected and flagged immediately on late payments. The program supports a per cent of the payment due late charge computation. Delinquency records prepared by the system for user analysis include all information necessary for delinquency reporting. Scheduled item analysis can be accomplished from the full aged delinquency reports. All loans that have been contractually changed or rewritten while in a delinquent status during the past twelve months appear on the full delinquency aging report.

Management analysis of profitability is facilitated through the program's income accrual procedure and the analysis of portfolio earnings. A set of comprehensive portfolio statistics are maintained to allow automatic preparation of periodic reports to meet Federal Home Loan Bank Board requirements.

Audits are provided: (1) by balancing to transaction entry proof totals, (2) by maintenance of audit trails between programs and (3) by balancing to totals on exception type reports listing unprocessed transactions.

Customer Service -- Coupon payment with a periodic customer statement or a monthly billing statement is provided.

Investors and participation reporting is provided. Special handling (no mailings, no late charges) is accommodated.

Reduced Operating Costs -- Expandability and flexibility of loan portfolio size, types of loans handled and loan service features provided cause little, if any, increase in equipment or programming expense.

User design and programming expenses are minimized by application programs designed to accommodate future modification and expansion. Hiring and training expenses are reduced by elimination of many needs for clerical handling and intervention.

Customer Responsibilities: Customer responsibilities include the following --

Conversion of the Mortgage Loan Master File

To assist the customer in conversion, separate assembler language source decks have been provided in the basic program material. These are the Scatter/Gather program and Physical IOCS Modules. If the user decides to write a program to convert his present data into the Mortgage Loan Master Record format, he should consider using these programs since the resulting conversion program would duplicate the method of writing used in the Mortgage Loan Program.

Assemble Programs
Write RPG Programs for Reports
Catalog all programs to the Basic Operating System
Core Library

Programming Systems: The source language is the IBM Basic Operating System/360 (8K Disk Resident) Assembler. Programs for Generation and Execution are as follows:

Basic Operating System	360B-CL-302, 360B-IO-303, 304, 305
Sort/Merge	360B-SM-308
Assembler	360B-AS-309
Utilities Group 1	360B-UT-300, 301
RPG-Basic Operating System	360B-RG-307

CONTENTS

System/360 Mortgage Loan Program, 360A-FB-19X ... an application program which may now be ordered. [A]

System/360 On-Line Teller Program (with Mortgage Loan Background Capability), 360A-FB-16X ... an application program is now available. [B]

Published by DP Sales Publishing Services, WTHQ

Release Date: September 29, 1967
Distribution: All Areas

P67-108

System Requirements: A 2030 Model D Central Processing Unit with Decimal Arithmetic (#3237), Selector Channel (#6960), 1051 Attachment (#7915), 1051 Control Unit Model N1, CPU Attachment on 1051 (#3130) ... 1052 Printer-Keyboard Model 6 ... 2841 Storage Control, two 2311 Disk Storage Drives; AND EITHER one 2540 Card Read Punch ... one 1403 Printer Model 2 ... one 2821 Control Unit Model 1; OR one 1442 Card Read Punch Model N1 ... one 1443 Printer Model N1* with 24 additional Print Positions (#5558).

*Standard 52 character set ... print positions 24 additional (#5558).

Substantial improvement in the total job times for Daily Processing can be accomplished by expansion of the system configuration beyond the above minimum. For additional information regarding run times consult the program reference material.

Basic program material available from PID consists of:

Publications* -- Application Directory ... Programmers Manual (H20-0469-0) ... Operator's Manual (H20-0470-0) ... System Manual (Y20-0127-0).

Machine Readable ** -- Application Program System/360 Assembler Language Source Decks ... Scatter/Gather System/360 Assembler Language Source Decks ... Sample Problem Object Program to create a Master File and Parameter Record... Sample Problem Basic Operating System Job Control Decks with sample data ... Physical IOCS Assembler Language Source Deck Modules are available on one 9-track magnetic tape (800 or 1600 bpi) or on one 7-track magnetic tape (800 cpi) Data Conversion feature required or on one 1316 Disk Pack.

Ordering Procedure: See DP Sales Activity Section of the Branch Office Manual.

*If only the form-numbered publications or if additional copies of the form-numbered publications are required, order them from the IBM Distribution Center, Mechanisburg --not from PID.

**When ordering this program, if the distribution medium is not specified on the back of the program order card, 9-track at 800 bpi will be forwarded.

Magnetic Tapes (2400') may be forwarded or ordered (the order card should accompany the tape order form); disk packs must be forwarded to PID with the program order card.

Additional Program Support Material:

Application Description Manual, "IBM System/360 Mortgage Loan Program" (E20-0196-1).

For further information contact the Regional Finance Industry Representative.

IBM SYSTEM/360 ON-LINE TELLER PROGRAM (WITH MORTGAGE LOAN BACKGROUND CAPABILITY) [B]

Version 2 of the S/360 On-Line Teller Program with Mortgage Loan Background Capability is now available, 360A-FB-16X.

This program contains the S/360 On-Line Teller Program 32K Capability which was announced in P67-17. It also provides the ability to operate in a 16K system without background. Included with the On-Line Teller program are File Conversion and File Reorganization programs to assist in establishing and maintaining the on-line savings master file.

The application performs the basic accounting normally associated with teller activity at the savings window. It accepts entries from the 1060 system, maintains depositors records on 2311 disks, responds to the teller terminal tape or the passbook, accumulates teller totals, and develops a journal of savings transactions. It keeps control totals which, with teller totals and the journal, make possible a daily audit of the depositors' records.

The Mortgage Loan Background Capability permits S/360 Mortgage Loan programs to be run with the On-Line Teller Program. However, the Posting/File Maintenance program will not execute in the background within 32K because of core requirements. Posting/File Maintenance will operate in this mode in a 65K system, or it can be executed following the close of savings windows as a foreground (stand alone) program. See the sales manual entry for a suggested processing sequence.

Ordering Procedure

Refer to the sales manual text for ordering information for new users and a description of the program material available. The program order number is 360A-FB-16X.

Current users of the program will receive a prepunched program order card and a letter announcing the availability of the new version, and instructing the users to order the new version through the branch office. Current users must use this prepunched program order card to order the new version.

On-Line Teller Program (with Mortgage Loan Background Capability): Version 2 Performs the basic accounting normally associated with teller activity at the savings window. It accepts entries from the 1060 system, maintains depositors records on 2311 disks, responds to the teller terminal tape or the passbook, accumulates teller totals, and develops a journal of savings transactions. It keeps control totals which, with teller totals and the journal, make possible a daily audit of the depositors' records. (360A-FB-16X)

Description: The On-Line Teller program is designed to control the operation of multiple 1060 and 1050 terminals for on line savings accounting with S/360.

The programs furnished are: Master File Conversion, On-Line Processing, and File Reorganization.

On-Line Teller without background capability requires a 2030 Model E (32K) to handle up to 44 subchannels. In addition to real time savings accounting, the user will be able to perform limited concurrent peripheral operations such as card to disk, disk to printer, and disk to card. Alternatively, the program without background capability will handle up to 16 subchannels in a 16K system (concurrent peripheral operation capability is not available in the 16K program).

On-Line Teller with Background Mortgage Processing Capability has the capability of running batch type mortgage loan processing as background to the S/360 On-Line Teller System utilizing the S/360 Mortgage Loan program. This program can handle up to 16 subchannels on a 2030 Model E (32K) or up to 44 subchannels on a 2030 Model F (65K).

The Mortgage Loan Background Capability permits the following S/360 Mortgage Loan Programs to be run as background programs with the On-Line Teller Program.

	Background	Foreground (Stand-alone)	Background
Day 1	Multiple passes of 1. Entry Edit 2. Transaction Sort	3. Posting/File Maintenance Executed following close of savings windows.	
Day 2			4. Trial Balance List 5. History Transactions Dump 6. User written report programs
			Multiple passes of Entry Edit. Transaction Sort

Periodic Processing - Background

Escrow Analysis
Billing/Statement
Coupon Book Preparation
History Transaction Sort
Internal History Report
Transferred Accounts Sort
Transferred Accounts Merge

Features: File organization techniques are employed to permit the storage of up to 300,000 memorandum-type savings accounts on the account pack.

In the real-time program which handles teller operations, the communication network control module and the file control module are isolated from the routines that process the transactions. This facilitates user-modification of any module. Furthermore, a coding technique is employed in programming the transaction routines so that they are simple to understand, modify, or supplement.

Special Sales Information: The following is a statement of the core requirements for the background capability.

16K OLT 16 lines, 32 terminals	16K
Background/BOS Supervisor	6K
	22K
Background Problem Program	10K
Minimum Core Size	32K

The S/360 Mortgage Loan Posting/File Maintenance program will not execute in the background within 32K because the program core required is greater than 10K. It will, of course, operate in this mode in a 65K system.

Use: The program contains its own supervisor. Some parts of the program are kept on disk and brought into core when needed. Teller totals and a journal of transactions are developed on the same disk. Customer accounts are maintained on a separate disk pack.

Customer Responsibilities: The customer is responsible for the customary off-line operations (i.e., history files, form 1099, interest calculations).

Programming Systems: Source language is System/360 Assembler.

The following Type I programs are required for program assembly and use with the conversion and reorganization programs.

Name	Program Number
Basic Operating System, 8K	
Basic Control Program	360B-CL-302
Consecutive Processing Macros	360B-IO-303
Utilities, Groups 1 & 2	360B-UT-300 & 301
Assembler	360B-AS-309
Basic Programming Support	
Initialize Disk	360P-UT-069

System Requirements: 32K Capability, with a maximum of 44 subchannels

2030 Processor with Decimal Arithmetic	x
Interval Timer	1
Storage Protection	1
Selector Channel	1
Console Typewriter	1
1060 and/or 1050 terminals as required to a maximum of	88

2701 (from 1 to 4 subchannels)	
Terminal Adapter Type I	One per line
Expansion Features	One for each line beyond one
Expanded Capability	One for lines 3 and 4
Line Adapter	One per line
or	
2702 from 1 to 31 subchannels	1
over 31 subchannels	2
Terminal Control Type I	One per 2702
Line Adapters	One per line
31 Line Expansion Feature	One per 2702 with more than 15 lines
2311 Disk Storage Drive	2*
2841 Storage Control	1

*Customers using concurrent peripheral operation must have an additional 2311 disk drive for this purpose and the system must be 32K minimum.

Devices supported by concurrent peripheral operations include:

2821 control unit required	2540	Model 1
	1403	Models 2, 3, 7, N1
	1443	Model N1

System Requirements: 16K Capability, with a maximum of 16 subchannels

2030 Processor with Decimal Arithmetic Model D	x
Interval Timer	1
Storage Protection	1
Selector Channel	1
Console Typewriter	1
1060 and/or 1050 terminals as required to a maximum of	32

2701 (From 1 to 4 subchannels)	
Terminal Adapter Type I	One per line
Expansion Features	One for each line beyond one
Expanded Capability	One for lines 3 and 4
Line Adapter	One per line
OR	
2702 (From 1 to 31 subchannels)	1
Terminal Control Type I	1
Line Adapters	One per line
31 Line Expansion Feature	One per 2702 with more than 15 lines
2311 Disk Storage Drive	2
2841 Storage Control	1

System Requirements: Background Mortgage Loan processing capability.

	Number of Subchannels	
	16	44
2030 Processor with Decimal Arithmetic Model E	x*	
Model F		x*
Interval Timer	1	1
Storage Protection	1	1
Selector Channel	1	1
Console Typewriter	1	1
1060 and/or 1050 terminals as required to a maximum of	32	88

2701 (From 1 to 4 subchannels)	
Terminal Adapter Type 1	One per line
Expansion Features	One for each line beyond one
Expanded Capability	One for lines 3 and 4
Line Adapter	One per line
OR	

2702 (From 1 to 31 subchannels)	1	2
Terminal Control Type 1	1	2
Line Adapters	One per line	
31 Line Expansion Feature	One per 2702 with more than 15 lines	
2311 Disk Storage Drive	4**	4**
2841 Storage Control	1	1
EITHER***		
2540 Card Read Punch	1	1
1403 Printer Model 1	1	1
2821 Control Unit Model 1	1	1
OR***		
1442 Card Read Punch Model N1	1	1
+1443 Printer Model N1	1	1
5558 24 Additional Printer Positions		

*Includes additional storage required to support background mortgage processing.
**2 for System/360 On Line Teller plus 2 for System/360 Mortgage Loan.
***Required by the System/360 Mortgage Loan Program
+Standard 52 character set

Basic Program Material available from PID consists of:

Publications* -- Application Directory; Programmers Manual, H20-0305-1; Operators Manual, H20-0325-1; Systems Manual, Y20-0071-1.

Machine Readable Material**-- The source code is available on one 2400' Magnetic Tape, 9-track (800 or 1600 bpi) or 7-track (800 bpi) Data Conversion feature required or one 1316 Disk Pack.

Ordering Procedure: See the DP Sales Activity Section of the Branch Office Manual.

*If only the form-numbered publications or if additional copies of the form-numbered publications are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

**If the distribution medium is not specified on the back of the program order card, 9-track at 800 bpi will be forwarded. Magnetic Tapes (2400') may be forwarded or ordered (the order card should accompany the tape order form); disk packs must be forwarded to PID with the program order card.

Additional Program Support Material: Application Description, H20-0149.

Reference Material: IBM 1060 Data Communications System, A21-9001.

For further information contact your Regional Finance Industry Representative.

John Fahey
Director of DP Marketing

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IBM World Trade Data Processing 67-109

Program Announcements

CONTENTS

OS/360 FORTRAN H Version II ... additional information. (A)

System/360 Model 44 Programming System ... supplement to P67-105, Item B. (B)

Published by DP Sales Publishing Services, WTHQ

OS/360 FORTRAN H VERSION II [A]

The minimum storage requirement for FORTRAN H Version II has been reduced to 150K bytes of main storage. A FORTRAN program of approximately 200-300 source cards can be compiled at the 150K level. With 200K bytes of main storage, a source program of approximately 600 cards can be compiled. For larger source programs, a factor of 18K additional main storage per 100 source cards can be used to determine the approximate size parameters when generating the system. The performance of the compiler will be the same regardless of the size specified.

This additional information supplements the announcement of FORTRAN H Version II (P67-86).

SYSTEM/360 MODEL 44 PROGRAMMING SYSTEM [B]

Supplement to P67-105, Item B.

Release 2 was tested at the following EC Levels.

2044	390147	ECA 31
1442	811076	ECA 15
1443	124021	ECA 25
2311	411189	ECA 44
2401	730172	ECA 28
2402	730172	ECA 44
2402	730174	ECA None (Phase Encoded)
2803	730033	ECA 34
2803	730909	ECA 49 (Phase Encoded)
2821	125648	ECA 66
2841	413401	Stage II
TROS	413173	ECA None
2841	413161	ECA 46
TROS	413173	ECA 50

John Fahey
Director of DP Marketing

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Attachments [7]: [1 thru 6] P 360S.1, 3, 5, 7, 9, and 11 ... [7] P 1800.5.

Release Date: October 16, 1967

Distribution: All Areas

Note to World Trade Readers

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[2] Advance copies of the form numbered publications mentioned in the above either have been shipped (with additional copies available from the IBM Distribution Center, Mechanicsburg, Pennsylvania) or will be shipped when available. In the case of the later, availability will be announced in the Weekly DP Marketing Publications Release Letter.

[3] When a new version of a program is announced current users must order it; they will not receive it automatically nor will they necessarily receive a prepunched request card in their Area.

[4] If DTR distribution is indicated in the above, program distribution media may be different in your area based on local conditions.

[5] All references made to the Program Information Department (PID) should be understood to mean the appropriate WT Program Library.

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IBM World Trade Data Processing

67-111

Program Announcement

SYSTEM/360 INVENTORY CONTROL

CONTENTS

System/360 Inventory Control ... application program to be available November 15, 1968.

Published by DP Sales Publishing Services, WTHQ

This group of integrated programs has been especially designed for the implementation of order point inventory control where it applies in manufacturing organizations.

Programs are provided for (1) classification of inventory items for determining the type of control, (2) calculation of economic order quantities based upon previous usage or future requirements, (3) computation of safety stock and order point, (4) projection (or forecasting) of demand based upon historic data, and (5) processing inventory transactions and preparing a status report.

Availability will be November 15, 1968.

The package provides for three major aspects -- planning, projection, and execution.

For planning purposes three programs are included: (1) Inventory Analysis, (2) Order Point, and (3) Order Quantity.

The projection phase consists of four programs: (1) Edit, (2) Model Select, (3) Initial Update, and (4) Update and Project.

The execution phase is made up of two programs: (1) Transaction Processing, and (2) Status Reporting.

The programs are designed to utilize item master files organized by the System/360 Bill of Material Processor (360A-ME-06X) or DOS/360 Indexed Sequential File Management System (360N-IO-457).

The concepts of the inventory control programs are discussed in the IBM Manual, Production Information and Control System (E20-0280).

For detail information see the reverse side for the text that will appear in the sales manual. Further information may be obtained from your Regional Manufacturing Industry Marketing Representative.

John Fahey
Director of DP Marketing

Attachments [5]: P 360A.13, P 360A.15, P 360A.19, P 360A.21, and P 360A.31.

Release Date: October 23, 1967

Distribution: All Areas

P67-110 number not used by WT

P67-111

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System/360 Inventory Control: This group of integrated programs has been especially designed for the implementation of order point inventory control where it applies in manufacturing organizations.

Programs are provided for (1) classification of inventory items for determining the type of control, (2) calculation of economic order quantities based upon usage information or future requirements, (3) computation of safety stock and order point, (4) projection of demand based upon historic data, and (5) basic programs for transaction processing and report preparation.

Description: This application programming package consists of programs, suggested techniques, and supporting documentation for the installation of an effective order point inventory control system. There are three major aspects - planning, projection, and execution.

For planning purposes three programs are provided: (1) Inventory Analysis, (2) Order Point, and (3) Order quantity.

The projection phase includes four programs: (1) Edit, (2) Model Select, (3) Initial Update, and (4) Update and Project.

The execution phase is made up of two basic programs: (1) Transaction Processing, and (2) Status Reporting.

Inventory Analysis: A program that provides detailed analysis of inventory items based upon usage and cost. The output is useful in determining how the items are to be controlled.

Order Point: A program that calculates order point and safety stock for items in the inventory master file. Five different techniques for computing safety stock are provided including two statistical techniques using Mean Absolute Deviation (MAD) and user supplied level of service.

Order Quantity: Inventory carrying rate and order costs are used by this program to determine economic order quantities. The program calculates order quantities based on average usage or future requirements. Four techniques for order quantity calculation are included in the module. It is highlighted by an anlysis for implementation feature which permits the user to analyze the effect of changing order quantities prior to implementing.

Interface to user demand data. The program converts the user's demand history file (card, disk or tape) to format required for the model select program. It also edits data for unusual demand variations.

Model Select: The historic demand information is analyzed by this program to determine if patterns exist. Items are classified into one of four types that are used to select the technique for projecting future demand. Initial values (averages, MAD, etc.) are also computed.

Initial Update: This program uses the output of model select and places these codes and values on the item master file.

Update and Project: An operational program that uses the latest demand for each time period and keeps the item master up to date. It has provision for projecting future demand based upon the most recent information in the item master file.

Transaction Processing: This program accepts input transaction, for example, receipts, issues, etc., and updates the item master record. Transaction listings with exception highlighting and order recommendation cards for order point items are the output of this program.

Status Reporting: Information regarding the status of items in the file is made available by this program. Output is a stock status report for all or a selected portion of the items in the file.

Features:

- Nine programs are provided to assist the customer in developing an order point inventory control system.
- Four of the inventory programs are for analysis of inventory usage to provide information for operational programs.
- Operational programs that update inventory master record for current status and the most recent usage information.
- Provision for order action notice for order point items when order point is calculated and when transactions are processed.
- Five options for computing safety stock including two statistical methods using Mean Absolute Deviation (MAD) and user specified level of service.
- First and second order exponential smoothing with automatic updating of MAD.
- Highlighting of items when new order point varies from old order point by a specified percentage.
- Evaluation of old and new safety stock each time order point is calculated.
- Analysis for implementation feature of order point program enables user to evaulate possible effects prior to changing method of calculation or specific parameters.
- Analysis can be performed on all items or on a portion of the file, with or without updating.
- Order quantity calculations based on averages or future requirements.
- Four methods for calculation of order quantity with exits for insertion of user routines.
- Analysis for implementation is part of order quantity program it provides for contrasting the newly computed order quantity to existing order quantity
- Analysis feature answers questions relative to inventory level and setup costs for old and new order quantities.
- Order quantity category code allows for many combinations of order costs and carrying rates. Only the code is stored on the inventory record.
- Provision for processing specific transactions that update the master inventory file.
- Special emphasis is placed on ease of implementation.
- Programs are modular in design to permit the customer to use only the options he desires.

Special Sales Information: The programs are designed to utilize files organized by the S/360 Bill of Material Processor (360A-ME-06X) or the DOS/360 Indexed Sequential File Management System (360N-IO-457).

Many of the aspects of these programs are discussed in the IBM Manual, Production Information and Control System, (E20-0280).

The two basic programs for execution phase can be easily modified to produce additional reports and process other transactions. Normally this will only involve changing the RPG specifications for input, output, and processing.

Use: The System/360 Inventory Control Programs are direct access file oriented and work in conjunction with an item master inventory file. The records within this file are created, added, deleted, and reorganized using the S/360 Bill of Material Processor Program or DOS/360 Indexed Sequential File Management System.

The inventory control package includes initializing and operational programs. Inventory Analysis, Edit, Model Select, and Initial Update are designed to be used once to set up the system, then periodically (perhaps yearly) or as required to meet changing conditions. Order Point and Update and Project are run on a regular basis (for example, every month or every two weeks). The frequency of using the Order Quantity program depends upon the user's requirements. Normally the items considered as having a fixed order quantity would be processed once or twice a year. This is true if present order quantities are consistent with management's ordering policy. If the order quantities are not considered economical, this program, with its analysis for implementation feature, will be used frequently.

The execution phase consists of two basic programs for recording and obtaining information from the file. The two basic programs of execution (or modifications to these of the user's own progams) will be used in the day-to-day operation. The amount of use depends upon transaction volume and the number of reports the user prepares.

Customer Responsibilities

- Organization and construction of item master file, including specifying all data fields to be included.
- Creating, adding, deleting of records in the master file.
- An understanding of the inventory control concepts embodied in the programs so that the customer can make the selection and/or specification of parameters for planning and projection programs.
- Provide historic data for inventory analysis programs.
- Identification coding and processing definition for transactions.
- Writing routines to perform tasks not covered by these programs.

Programming Systems: Inventory Control Programs will operate under the IBM System/360 Disk Operating System. The planning and projection programs are written in Assembler Language. The execution programs are written using Report Program Generator.

Minimum System Requirements: System/360 Model 2030E ... Decimal Arithmetic (#3237) ... 1051 Control Unit for Printer "Keyboard" Model N1 ... 1052 Printer-Keyboard Model 8 with appropriate attachments ... System/360 Card Reader and Card Punch or Card Read Punch capable of reading one file and punching a second file simultaneously ... System/360 Printer with 120 print positions ... 2841 Storage Control Model 1 ... 2311 Disk Storage Drives as required to contain Disk Operating System/360 and users data files.

Program Support Material: Application Description Manual - System/360 Inventory Control (H20-0471).

Reference Material: Production Information and Control System, E20-0280 ... System/360 Bill of Material Processor - Application Description Manual, H20-0197 ... System/360 Bill of Material Processor - Programmer's Manual, H20-0246 ... Wholesale IMPACT Inventory Management Program and Control Techniques, E20-8105 ... Wholesale IMPACT Advanced Principles and Implementation Reference Manual, E20-0174.

For further information contact your Regional Manufacturing Industry Marketing Representative.

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IBM World Trade Data Processing

67-112

Program Announcement

CONTENTS

On-Line Test Executive Program (OLTEP) ... a new facility to DOS/360 and TOS/360

Published by DP Sales Publishing Services, WTHQ

ON-LINE TEST EXECUTIVE PROGRAM (OLTEP)

A new facility for on-line testing of I/O devices is to be added to the Disk Operating System (DOS/360) and Tape Operating System (TOS/360).

The On-Line Test Executive Program (OLTEP) is a monitor program that controls the execution of individual routines designed to test specific I/O units. OLTEP can be run either in a dedicated batch-only environment or in the background partition of a multi-programming system. This allows the user to continue performing productive work during the running of I/O unit tests. Except for specific I/O units being tested, all units of the system remain available to the user.

Significant advantages can be realized from using OLTEP. These include:

- Increased system availability
- Improved serviceability
- Productive work (in foreground partitions) during servicing
- System checkout following maintenance

The OLTEP monitor program may be ordered by DOS/TOS users and maintained by normal programming releases. The test routines will be distributed to Field Engineering as IBM part numbers. Unit tests, as they become available for your system, are obtained from the local CE. For DOS/360 users the OLTEP functions may require up to seven cylinders in the core image library of the system pack; ordinarily, however, four to five cylinders will be sufficient.

Customer system time will be used for OLTEP operations, except where the system is released to IBM. Since OLTEP uses only the background partition, the customer has full use of both foreground partitions including tele-processing applications during maintenance.

Minimum System Requirements

Same as those for DOS/360 and TOS/360. The monitor program and any specific I/O unit test being run require a maximum 10K problem area in core storage. While OLTEP can operate in a 16K system, its maximum benefit will be realized in the multiprogramming environment.

SRL Publications

IBM System/360 Disk and Tape Operating Systems, On-Line Test Executive Program Specifications and Operating Guide, C24-5066.

Availability

DOS/360 OLTEP will be available November 15, 1967; TOS/360 OLTEP, March 15, 1968.

John Fahey
Director of DP Marketing

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS"

FOR IBM INTERNAL USE ONLY

Release Date: October 20, 1967

Distribution: All Areas

Note to World Trade Readers

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IBM World Trade Data Processing

67-113

Program Announcement

System/360 Vehicle Scheduling Program (VSP)

CONTENTS

System/360 Vehicle Scheduling Program (VSP) ... an application program to be available November 16, 1968.

Published by DP Sales Publishing Services, WTHQ

VSP computes near-optimal routes for delivery of products or services by a fleet of vehicles. Because of the wide range of program options, it can be applied to almost every fleet routing and delivery situation. This System/360 program will be available September 16, 1968.

VSP will determine the routes a group of vehicles must travel to meet certain commitments in the delivery of products or service to customers at given locations. The result is a feasible solution balancing basic variables such as distance traveled, time, and number of vehicles. In addition to fulfilling a daily routing function, the program can be used to realign fixed routes, aid in determining possible locations of warehouses and depots to service potential customers, plan for a new fleet, and provide statistical and cost data relative to the efficiency of a fleet.

The program consists of two main sections, the Network Analysis Program and the Schedule Production Program.

The Network Analysis Program analyzes a network representing the potential calling points and computes either actual or approximate distance between all points.

The Schedule Production Program uses the output of the Network Analysis Program, together with the list of calls to be made, to prepare feasible routes approaching a balance between optimum loads, minimum mileage, and minimum time -- the most important by-product being that fewer vehicles may be required.

The user must be fully familiar with the features of VSP. Capable personnel must be assigned to gather the data for the Network Analysis Program, establish work standards, and determine special requirements (e.g., specific unloading times, limited accessibility) for each delivery point. Results are dependent on the accuracy and applicability of the data collected. Programming will be required if the user chooses to expand or tailor the output of VSP.

See the reverse side for the text that will appear in the sales manual. For further information contact your Regional Scientific Marketing Representative.

John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

Release Date: October 23, 1967

Distribution: All Areas

IBM System/360 Vehicle Scheduling Program (VSP): An exciting new application designed to provide a comprehensive tool in the planning and operating of a distribution and delivery system. VSP computes near-optimal routes for delivery of products or services by a fleet of vehicles. Because of the wide range of program options, it can be applied to almost every fleet routing and delivery situation. The advantages over manual methods are increased efficiency and speed of scheduling, improved routing and, therefore, cost reductions through more nearly optimal fleet utilization. These savings alone can in many cases justify a computing system.

Description: The System/360 Vehicle Scheduling Program determines the routes a group of vehicles must travel to meet certain commitments in the delivery of service or products to customers of given locations. The program balances the basic variables of distance traveled, time and number of vehicles. VSP consists of two main sections, the Network Analysis Program and the Schedule Production Program. The first program analyzes a network represent the potential calling points and computes either actual or approximate distances between all points. The second program can repetitively produce schedules which meet restrictions such as route-time, speed, vehicle capacity, customer requirements and many other features listed below.

The program can be used to solve many types of delivery problems. In addition to fulfilling the daily routing function, VSP can also be used to realign fixed routes, aid in determining feasible locations of warehouses and depots to service potential customers, plan for a new fleet, and provide statistical and cost data relative to the efficiency of a fleet.

Input to the Network Analysis Program can be either of two types: True Distance or Coordinates. Both methods are concerned with zones, not actual customers. A zone is defined as a closely-knit area (e.g., a shopping center, a postal zone or a small section of a city). The size of a zone can range from 1 to 255 customers. The True Distance Method considers distances over actual roads between all points, intersections and zones. Individual speeds can be specified for each road in the network if desired. This method, while more time consuming to prepare, gives a higher degree of accuracy as the output file will represent the combined knowledge of a firm's manual routing and dispatching departments. True Distances are best suited for those networks in which customer location can be determined in advance with relatively few changes. It is run infrequently.

The alternative system, the Coordinate Method, uses coordinates to define each zone location. The program computes straight line distances which are then adjusted to approximate the actual distances. The output can be further refined by designating Barriers through which no path exists and Congested Areas where traffic flow differs from the norm. The program will compute the shortest path around the Barrier and extend the travel time through a Congested Area.

Both methods produce a file representing all practical combinations of pairs of potential delivery zones.

The Schedule Production Program uses the output of the Network Analysis Program together with the list of calls to be made. It then prepares feasible routes approaching a balance between optimum loads, minimum mileage, and minimum time, within the restrictions imposed by the user, the most important by product being that fewer vehicles may be required. The output of the program consists of a printed list of the recommended sequence to be followed by each route. A summary of the fleet utilization is also produced. All output is stored on disk and can be modified by the user to prepare a variety of specialized reports, including: warehouse picking and loading lists, invoices in route sequence, special driver instructions; plus various analytical reports. The output can, of course, also be used as the entry back into the customer's existing data processing flow. VSP can therefore be a link to a more fully integrated distribution system.

Features: The features of the Schedule Production Program listed below are of particular interest as they allow the schedules to be tailored to meet specific demands of customer service and fleet utilization. These features are designed as options or modules which are used only when requested by the user and can then be combined in any manner.

- Limited calling times by stop
- Average time at all stops in addition to loading/unloading
- Special additional time for an individual stop
- Vehicle limits by calling point
- Up to 255 different vehicle types and/or capacities
- Average speed for the fleet
- Earliest possible starting time and latest possible finishing time for the fleet
- Maximum route time by vehicle type
- Maximum number of calls per route
- Multi-compartment vehicles
- Variable assignment of trailers to vehicles
- Average unloading time per unit delivered
- Dual specification of load e.g. weight and volume
- Multiple journeys for a vehicle in a day
- Multiple day journeys
- Low priority orders
- Traveling time between calls within a zone.

Use: VSP is designed for initialization and repetitive performance of route scheduling. Though the user is not required to write any additional programs, he may choose to write programs to create the input or expand the output of the Schedule Production Program.

Customer Responsibilities:

1. The user must be familiar with the options and features of both the Network Analysis and the Schedule Production Programs.
2. Capable user personnel must be assigned to choose between the True Distance and the Coordinate methods and gather the appropriate data. Sufficient time should be given to data gathering prior to implementation of VSP.
3. Overall work standards and special requirements for each delivery must be documented prior to producing the first workable schedule.
4. Some user programming may be required to tailor the input and output of the Schedule Production Program, as mentioned above.
5. A period of parallel operation when both BSP and the manual system are used should be planned. This will allow time to try various combinations of the program features to produce the desired routings.

Programming Systems: VSP is written in Basic Assembler Language and operates under the IBM System/360 Disk Operating System (DOS). Use is also made of the DOS Sort/Merge.

Minimum System Configuration: System/360 Model E30 (32K), (1051-1052 and attachments), 1442 Card Read Punch Model N1, 1443 Printer Model N1, two 2311 Disk Storage Units (control units for reader, printer and disk). This includes provision for DOS disk residence.

Special Sales Information: The full capacity of VSP in terms of number of deliveries and number of zones will require a system larger than the 32K - 2 Disk minimum. The core requirements by number of deliveries is shown below. The number of zones assumes a maximum of six 2311s. The computing time required for a large number of zones can be quite long. Consideration should therefore be given to:

1. Larger core. This will substantially reduce the time required by the Network Analysis Program or
2. Use of a very large System/360 external to the installation. Since the Network Analysis Program is usually run infrequently, this may be more desirable.

Some options of the Schedule Production Program require additional core storage beyond the basic delivery record length of 14 bytes:

3 bytes for Limited Calling Time, plus 6 bytes per Limited Calling Time Delivery
2 bytes for Dual Specification of Load
1 byte for Limited Vehicle Size by Calling Point
1 byte for Special Time for an Individual Call

Since many combinations of these options can be used, the total record length per delivery can vary from 14 to 21 bytes (excluding specific Limited Calling Time Deliveries). Be certain the proposed system is large enough to handle the maximum number of orders a user might deliver (12,000 bytes are available with 32K).

Schedule Capacities			
Record	Maximum Number of Deliveries		
Length	32K	64K	128K
14 bytes	850	3140	7710
15	800	2930	7200
16	750	2750	6750
17	705	2580	6350
18	660	2440	6000
19	630	2310	5680
20	600	2200	5400
21	570	2090	5140

Reduce the indicated Maximum Number of Deliveries by one-third of one delivery for each Limited Calling Time Delivery.

The Network Analysis program capacities shown below assume up to six 2311s. While this causes the maximum number of zones to be reached before core is exceeded on the larger systems, considerable speed is gained through the use of more core storage. The decomposition feature referred to is a method of increasing both the speed and capacity of the program.

Network Capacities						
Method	Maximum Zones & Storage Required					
	32K	DISKS	64K	DISKS	128K	DISKS
True Distance						
No decomposition:						
Speed on link	730	2	2400	4	3467	6
Average speed	950	2	3100	5	3467	6
With decomposition:						
Speed on link	1040	2	3467	6	3467	6
Average speed	1750	3	3467	6	3467	6
Coordinates						
With barriers and congested areas	1500	2	3467	6	3467	6
No barriers or congested areas	2000	3	3467	6	3467	6

Program Support Material: Application Description (H20-0464).

Reference Material: Promotional Brochure "VSP/360: Direct Route to Improved Vehicle Scheduling" (520-1914) ... VSP/360 Promotional Kit (slides and narrative) (V20-0156).

For further information contact your Regional Scientific Marketing Representative.

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Note to World Trade Readers. This is a reprint of an IBM P-Letter and was mailed concurrently to USA and WT offices. The following changes should be applied to the text for WT use. [1] Programs announced as available have been shipped to WT Program Libraries. Programs may be ordered as indicated on pages 9013-9017, PGM. Sec., WT DP Sales Manual. [2] Advance copies of form numbered publications mentioned above have been shipped or will be, when available. Availability will be announced in the Weekly Publications Letter. [3] When a new version of a program is announced current users must order it; they will not receive it automatically. [4] If DTR Distribution is indicated above, program distribution media may differ based on local conditions. [5] References made to PID means the appropriate WT Program Library. [6] Any reference made to DPD Depts. (or Regions) as sources of information means the comparable WT Dept. (or corresponding organizational level). [7] Communications facilities may be required which are not offered in all WT countries. In case of doubt as to availability of suitable facilities, consult the country TP Coordinator. [8] References made to Engineering Changes required should be verified with the local CE Office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

IBM World Trade Data Processing

67-114

Program Announcement

IBM System/360 Operating System

Release 13 can now be ordered. Shipments will begin this week.

This release brings new PL/I performance, improved system usability, and significant new functions to MVT, MFT, and PCP users. Use the information summarized below and detailed on the following pages to develop a plan for upgrading each user to the current release.

Initial MVT installations are demonstrating the value of a dynamic system with multijog capability. Customers with large systems now using MFT or PCP should evaluate the advantages of MVT for use in their installations.

NEW FUNCTIONS

- PL/I F Version III includes
  - New Language Facilities
  - UPDATE mode for sequential data sets
  - Batch Compile
  - New Method of including Library Routines
- COBOL F includes
  - Language additions for ISAM, BDAM, and UPDATE Mode of QSAM.
  - Sort Return Codes.
- QTAM provides
  - Serviceability and operational improvements.
  - 2314 Direct Access Storage Facility Support.
- Graphic Programming Services for FORTRAN
  - A significant Graphic Programming Package delivered six months early.
- Sort/Merge now supports
  - The 2314 Direct Access Storage Facility.
  - 64 Control Fields.
  - Selection of Sort Message Device at Execution Time.

  On-Line Test -- Allows execution of IBM I/O testing programs as jobs under OS/360 control.
- MFT -- Minimum partition size of 6K.

NEW SUPPORT FOR I/O DEVICES AND FEATURES

- 2321 Data Cell Drive
- 2250 Display, Graphic Programming Services
  - Data Plotting Routine
  - Light Pen Tracking

  2702 and 2703 Transmission Control Units -- Autopoll for QTAM and BTAM.

IMPROVEMENTS

- PL/I F Version III
  - Object Code performance improvements up to 4 to 1.
  - Compiler performance improvements up to 1.6 to 1.
  - Compiler statement capacity increased.
- FORTRAN G -- Statement capacity increased.
- Operational Improvements
- Maintenance Improvements

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

- PL/I F Version III -- 360S-NL-511

Significant improvements are made in the speed of object program execution, especially in commercially oriented programs. Additionally, there are notable improvements in the speed of compilation and allowable size of source programs. These improvements supplement the language facilities provided in previous versions of the compiler.

The specific improvements are summarized below.* The overall improvements in an installation must be determined on a program-by-program basis. A selected sample of commercially oriented programs obtained improvements of up to 4 to 1 in object execution speeds, with an average improvement of 2 to 1. Improvements of up to 1.6 to 1 for compilation speed were also obtained, with the greatest improvements in commercially oriented jobs. The capacities of certain compiler tables has been increased. This improvement permits the compilation of larger program segments.

* For details see P67-45

The performance improvements require no significant increase in object storage. In some cases, a decrease of object storage can be obtained.

In addition, a Batch Compilation facility provides a significant reduction in job time by eliminating separate job steps for compilation of individual PL/I program segments.

Installations should plan to recompile existing PL/I source programs to utilize the performance improvements of this release. The affects of the improvements will be least noticeable for programs which have been hand optimized to the characteristics of the compiler. In such cases, the improvements summarized below should be carefully matched to the programs to evaluate their effect.

Specific Improvements

- Conversions -- Performance is improved by the generation of in-line code for certain types of data conversion and by improvments to library routines. If optimizer level, "OPT=0", is used only conversions which are of fewer bytes than the library linkage will be compiled in-line. "OPT=1" causes all of the conversions to be compiled in-line.
- Array Expressions -- Improved object code for unsubscripted arrays whose elements are equally spaced in storage.
- Non-arithmetic Data Handling --The generation of in-line code and/or improvements to library routines for the SUBSTR, INDEX, UNSPEC functions and for string operations provide improved performance for character and bit manipulation, and logical operations.
- A reduction of housekeeping overhead in procedures and object time error routines.
- In-line code for certain cases of the GO TO label-variable statement.
- A new algorithm for register allocation.
- Direct addressing for certain cases of data which are overlay defined.

New Functions -- which also improve performance:

- Event Option -- A language feature which permits overlap between seeking and transmission of data and the processing of data for BDAM and BISAM. BSAM transmission can also be overlapped with processing. In effect, the programmer can schedule multiple I/O operations.
- Array Initialization -- Arrays of AUTOMATIC or CONTROLLED variables may be initialized using the INITIAL attribute.
- Mixed Defining -- Permits execution of programs with mixed data definitions.
- Update Sequential -- Supports UPDATE mode for sequential data sets with CONSECUTIVE or REGIONAL organization on direct access devices.
- New method of including Library Routines -- The method of including library routines into an object program is changed to facilitate both Link Editing of PL/I object modules from a library and the use of overlay with PL/I object modules.

FOR IBM INTERNAL USE ONLY

Release Date: October 24, 1967
Distribution: All Areas

- **COBOL F -- New Functions - 360S-CB-524**

  . **QSAM** - Update Mode -- The REWRITE Statement may be used to update a sequential file that was opened as an Input/Output file.

  . **SORT** Return Codes -- The Sort/Merge completion code is stored into TALLY by COBOL during execution of a SORT statement, making it available to the COBOL programmer.

  . BDAM - Read Exclusive -- APPLY RECORD PROTECTION may be specified for BDAM files. This feature prevents another read until a REWRITE statement has been issued.

  . **ISAM** - Indexed Sequential Organization -- ORGANIZATION IS INDEXED may be specified. ACCESS IS SEQUENTIAL provides for reading, writing and updating fixed-length logical records sequentially (QISAM). ACCESS IS RANDOM provides for reading and updating and inserting fixed-length logical records in a random manner at any point in the file (BISAM).

- **QTAM -- New Functions - 360S-CQ-519**

The following new features are incorporated in QTAM:

. Communications Serviceability Facilities

Temporary I/O errors are diagnosed and retried. Permanent I/O errors are diagnosed and logged on the system console. Error counts are maintained by the system. The CHECKIO facility is obsoleted by this new feature and therefore will not be available in this or subsequent releases.

Operator Control -- A 1050 or 2740 terminal can serve as the log for error messages, instead of the system console. It can also be the SOURCE for QTAM "commands" to display or vary the status for components of the QTAM job.

Checkpoint/Restart -- A checkpoint of the message control program may be taken either at specific intervals or when requested by a message processing task. Restart will automatically restore the message control task's environment to the status at the last checkpoint if the message control task terminates abnormally.

On-Line Terminal Tests -- This facility allows a customer engineer to request that QTAM transmit diagnostic messages to any IBM terminal in the system without taking the terminal off-line.

. Autopoll

Supports the Autopoll hardware function available on the IBM 2702 and 2703 Transmission Control Units.† This facility allows the TCU to handle negative responses to polling without interrupting the CPU.

. 2314 Direct Access Storage Facility

Makes this large capacity device available to the QTAM user for message queues.

- **BTAM -- New Function - 360S-CQ-513**

BTAM now supports the Autopoll feature of the 2702 and 2703 Transmission Control Units.† The use of Autopoll can significantly reduce the CPU interference which otherwise results from interrupts due to non-productive programmed polling. The support provides for two modes of operation: The first mode eliminates all interrupts due to negative response to polling ("WRAPLIST"); The second mode permits a negative response interrupt only when the terminal represented by the last entry in the polling list is polled ("OPENLIST").

† For engineering change requirements see page 3.

- **Graphic Programming Services for FORTRAN 360S-LM-537**

Graphic Programming Services for FORTRAN (Graphic Subroutine Package) consist of subroutines and functions that enable a FORTRAN programmer to create a display on one or more 2250 Display Units under OS/360 control. The displays produced consist of any figures that can be constructed with points, lines or characters, including charts, circles, arcs, rectangles, etc.

The subroutines and functions are requested through use of CALL statements in a sequence that produces desired characters of graphic forms on the 2250 screen, and that provides two-way communication between the user's program and the 2250 operator (if desired).

For more detailed description see P67-60.

- **Graphic Programming Services - 360S-IO-523**

Two new problem oriented routines, titled "GSDPLT"* and "PENTRK",* are added to the Graphic Programming Services Library.

. GSDPLT* - Data Plotting Routine

The GSDPLT Data Plotting Routine generates the graphic orders which are capable of plotting a series of points, vectors or disconnected line segments from data provided by the user. It is an improvement over the two existing problem oriented routines, "GSVPT" and "GSPLOT", in that:

It can be used to generate multiple line segments (i.e., disconnected vectors) via a single linkage to the routine.

Input data to GSDPLT may be in absolute or fixed incremental format as for GSVPLT/GSPLOT or it may be in variable incremental format.

. PENTRK* - Light Pen Tracking Routine

The PENTRK routine relocates a buffer subroutine into the user's available buffer storage. This buffer subroutine detects the motion of the light pen through a tracking pattern and updates the pattern accordingly.

This subroutine allows the operator at a 2250 to move a tracking symbol about the screen with a light pen. It is executed entirely within the graphic device buffer and does not require CPU interruption. As a result, the user can design his graphic order program to obtain an effect of drawing with the light pen.

* GSDPLT requires 2250 model 3 or feature #44 on a 2250 model 1.
PENTRK can be used only with a 2250 model 1.

- **Sort/Merge for the 2314 Direct Access Storage Facility 360S-SM-023**

A new sorting algorithm is provided using the 2314 Direct Access Storage Facility as an intermediate storage device. The ability to sort up to 64 control fields and to specify the sort message device by means of the PARM parameter of the EXEC card is also provided.

- **On-Line Test - 360S-DN-533**

The On-Line Test Executive Program (OLTEP) is an optional function which allows the Customer Engineer to:

. Evaluate the condition of an I/O unit suspected of failures.

. Execute diagnostic and adjustment programs without requiring that the entire system be made available.

. Verify off-line maintenance operations before assigning a unit to normal systems operation.

The On-Line Test Program is initiated as a normal OS/360 Job and is executed in the problem program state. Higher priority partitions in MFT and other regions in MVT can continue to execute but will share CPU and channel time with the test program.

Specific device tests, provided by customer engineers, reside in a partitioned data set in load module format. Customer data is protected during all testing. Console communication facilities are provided to initiate and terminate individual tests.

- **FORTRAN G - 360S-FO-520**

The number of source cards that can be compiled in a minimum dynamic main storage area of 80K bytes has been increased to approximately 400. This represents a 33% improvement over FORTRAN G in OS/360 Release 12.

- **MFT -- Minimum Partition Size Reduced**

In the MFT configuration of OS/360, partitions other than the lowest priority partition can be defined at system generation or IPL time to be smaller than the job scheduler size. The minimum partition size that may be defined is 6144 bytes. For compatibility with future releases, users should plan on a minimum partition size of 8192 bytes.

- **2321 Data Cell Drive**

Programmers can now use the 2321 for SAM, ISAM, BPAM, and BDAM data sets. For most users, it will be used for specific application data sets and source or object program libraries. The 2321 is not supported for system residence, nor Sort/Merge input, output or intermediate (work) storage or system input/output (SYSIN/SYSOUT) data sets. It should not be used for data sets having very frequent use, such as utility (work) data sets used by IBM processors.

- **Operational Improvements**

. Job termination status will be displayed on the console to inform the operator of the unusual completion of jobs.

. The IPL procedure has been simplified for the system user who does not always wish to have mounted certain volumes identified as permanently resident. This improvement allows the suppression of MOUNT messages for these volumes.

. A generalized SYNAD routine (SYNADAF) is provided which will analyze I/O errors and format a message buffer with printable information pertinent to an error. Use of this routine provides a standard message to the operator. It is available to the user as an Assembly Language macro.

. A "no operation" program designed to check JCL allocation and disposition processing is provided. It allows the user to check his JCL without actually loading and executing his program.

. The independent utilities (360S-UT-507) have improved error recovery procedures.

- The Dump/Restore program (IBCDMPRS) has been changed to achieve higher performance.

- EREP for Models 40, 50, 65, and 75

The new functions added to EREP provide for the optional summarization and/or accumulation of system environment information. For example, the user can now elect to print detail error information, summarize the failures of a particular component such as the CPU, or accumulate error information over a long period of time.

- System Utilities

  - Changes to the Update Analysis Program:

    The Update Analysis Program (IHGUAP) is now compatible with the Update Program IEBUPDTE.# Users of IHGUAP should note that, effective with Release 13, the IHGUAP program is no longer compatible with the Update Program IEBUPDAT.

    # Support for the Update Program IEBUPDAT will be withdrawn effective January 1968. Its function has been replaced by the improved Update Program IEBUPDTE.

Maintenance Improvements

Corrections for more than 320 APARs are included in Release 13. Customer programming systems and IBM personnel should consult "Maintenance Prose" for descriptions of these corrections. Maintenance Prose is distributed to current users with the prepunched order card when the availability of the release is announced.

Both the FE and SE technical organization should be informed of any Type I program situation that prevents an OS installation from advancing to the current release.

FE-SE System Generation Planning

Close cooperation between Field Engineering and Systems Engineering is vitally important, particularly when planning to install a new release. The following procedure is strongly recommended before any Operating System generation and installation is attempted.

Field Engineering and Systems Engineering representatives should meet before system generation will be performed. All programming components to be used by the customer should be reviewed for known restrictions or PTFs. Engineering change level prerequisites must be installed if needed. Applicable PTFs should be installed before attempting customer operations. The review should consider all available published information plus information carried in RETAIN or SECOM.

PTF Distribution

An initial distribution of PTFs will be made to every account ordering Release 13, marked for delivery to the customer engineer. This will assure that most PTFs are on hand if needed. The PTFs are to be given to the responsible programming systems customer engineer for handling.

PTFs represent changes which have not been fully integrated into the system; their testing is not as complete as normal distribution components. PTFs should be installed only where required.

MVT Installation Considerations

Experience at early installations of MVT indicates that it can be very effective when used properly. It has been shown that additional training provides a sound base for the successful installation and use of MVT. Pre-installation training and hands on experience for at least one SE on each MVT account is highly recommended. An education program for the customer's operators and system programmers should be given prior to installation. An Education Guide for a 4½ day MVT planning course is available to MVT trained SEs from DP Education Development, Poughkeepsie.

There are major areas of differences between MVT and PCP or MFT options of OS/360. A good summary of these differences along with planning considerations for MVT is found in "OS/360 Installation Considerations - Release 12" IBM Installation Newsletter No. 67-15, July 28, 1967, Page 21, green section.

Engineering Requirements

- Linkage Editor E using the 2314 Direct Access Storage Facility.

  EC 420653 and 420901 on the 2314 are required for Linkage Editor E residence on the 2314.

- BTAM/QTAM Autopoll using the 2870 High Speed Multiplexer Channel.

  EC 705801 is required. This Engineering Change will not be available until December 1967 and all installations will not be complete until February 1968. Until the availability and installation of this EC, the System/360 Models 65/67/75 do not support this programming function.

- BTAM/QTAM Autopoll with 2702 and 103F2 Data Set or equivalent.

  OS/360 installations which include 2702s shipped before September 9, 1967 cannot use the Autopoll feature with a 103F2 or equivalent Data Set until EC305396 is installed on the 2702.

  Full installation will begin in November 1967 and will be completed consistent with individual customer needs and machine availability.

Basic Program Material

The following SRL publications and documentation appropriate to the components ordered will be shipped by PID with each initial order. Machine readable material is distributed as indicated below.

SRL Publications

System/360 Operating System:

Job Control Language TNLs N28-2214, N28-2226, N28-2242, N28-2220*	C28-6539-4
Operator's Guide	C28-6540-5*
Supervisor and Data Management Services TNLs N28-2202, N28-2246, N28-2263*, N28-2279*	C28-6646-0
Supervisor and Data Management Macro Instructions TNLs N28-2217, N28-2223, N28-2248, N28-2251*	C28-6647-0
Checkpoint and Restart	C28-6656-0
System Programmer's Guide	C28-6550-3*
Storage Estimates TNLs N28-2265,* N28-2280*	C28-6551-4
System Generation TNL N28-2269*	C28-6554-3*
Messages and Completion Codes and Storage Dumps TNL N28-2277*	C28-6631-2*
Maintenance TNL N28-2160	C27-6918-0
Utility Programs TNL N28-2264*	C28-6586-5
TESTRAN TNL N28-2249, N28-2270*	C28-6648-0
Sort/Merge	C28-6543-4*
Assembler F Programmer's Guide	C26-3756-2
Assembler E Programmer's Guide	C28-6595-1*
FORTRAN IV E Programmer's Guide TNL N28-0211, N28-0233, N28-0235*	C28-6603-1
FORTRAN IV G Programmer's Guide TNL N28-2212, N28-0212, N28-0234, N28-0236*	C28-6639-0
FORTRAN IV H Programmer's Guide TNL N28-2211, N28-2228, N28-2247	C28-6602-0
FORTRAN IV Library Subroutines	C28-6596-2
COBOL E Programmer's Guide	C24-5029-2
COBOL F Programmer's Guide	C28-6380-1*
ALGOL F Programmer's Guide	C33-4000-0
Linkage Editor TNL N28-2201, N28-2224, N28-2239	C28-6538-3
PL/I F Programmer's Guide TNL N33-6001*	C28-6594-2*
PL/I F Library Computational Subroutines TNL N33-6003*	C28-6590-0
Graphic Programming Services for 2250 Display Unit TNL N27-1278, N27-1277*	C27-6909-3
Graphic Programming Services for 2260 Display Station (Local)	C27-6912-4*
QTAM Message Processing Program TNL N30-5005, N30-5004*, N30-5008*	C30-2003-1
Basic Telecommunications Access Method TNL N30-5010*	C30-2004-1*
QTAM Message Control Programs	C30-2005-1*
ON-LINE TEST EXECUTIVE Program (OS)	C28-6650-0*
Graphic Programming Services for FORTRAN IV	C27-6932-1*

* Denotes change from previous release.

If only the form numbered manuals or additional manuals are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

Documentation -- Program Material List ... OS/360 Prose

Machine Readable -- The complete OS/360 is distributed:

For the three Drive 2311 User -- On three 2400 foot reels of magnetic tape, either 9-track (800 or 1600 bpi), or 7-track (800 cpi, Data Conversion feature required), or three 1316 Disk Packs.

For the 2314 User -- On one 2400 foot reel of magnetic tape, either 9-track (800 or 1600 bpi), or 7-track (800 cpi, Data Conversion feature required).

For the Two Drive 2311 User -- The customized OS/360 is distributed on two 2400 foot reels of magnetic tape, either 9-track (800 or 1600 bpi), or 7-track (800 cpi, Data Conversion feature required), or two 1316 Disk Packs.

Ordering Procedure

For new users the branch office must have the Program Order Form for System/360 Operating Systems (120-1411). Current users of OS/360 will receive a prepunched Program Order Card and a letter announcing the availability of release 13 instructing them to order the new release through the branch office, using this prepunched card. Complete ordering instructions are provided in the letter to users.

In either case, the order form used (120-1411), or the prepunched Program Order Card, must contain the program number for each OS/360 component (if being ordered for the first time) for which program documentation and maintenance material is required.

All orders must indicate the number of 2311 disk storage drives available to perform system generation. Only those orders stating "Two drives to be used for SYSGEN" will be customized, as described in letter P67-1. All other 2311 users will be sent the entire system, for which three disk packs or three reels of tape are required.

Special Notes for Two-Drive Users

1. See Table 1 of this P Letter for sizes of distributed components (reference P67-1 for descriptive information).
2. Branch offices are responsible to assure that valid combinations of components are ordered.
3. Individual components (such as FORTRAN IV H) require the corresponding level of SYS1. GENLIB, which is distributed as a part of the Primary Control Program (360S-CI-505). PCP should therefore be ordered in all cases.

Special Note for 2314 Direct Access Storage Facility Users

OS/360 Release 13 provides a starter system for 2314 residence. Program distribution medium for 2314-resident systems will be on one reel of either 7- or 9-track magnetic tape. Tapes will be in the dump/restore format. Users who order the 2314 Starter System should indicate 2314 on the back or the program order card.

Since all 2314s provide sufficient capacity for system generation from the full OS/360 libraries, no customization (see P67-1) is planned for 2314-resident systems.

A 2314 user having two or more 2311 Disk Drives but no tape may order the 2311-resident system using the 1316 Disk Pack as the distribution medium. System configurations which do not include either 2311s or tape must make local arrangements for a system with both 2314 and Tape to perform the tape-to-2316 Disk Pack restore operation.

A branch office unable to arrange for tape-to-2316 Disk Pack conversion should contact the regional manager of Programming Systems Marketing for assistance.

Program components may be selected from the following list. Each component for which program documentation and maintenance material is required must appear on the order form.

Starter System for 2311 Residence	360S-CI-514
Starter System for 2314 Residence	360S-CI-534
Primary Control Program	360S-CI-505**
Primary Data Management	360S-DM-508**
OS/360 Utilities	360S-UT-506**
Independent Utilities	360S-UT-507**
Assembler E	360S-AS-036+
Assembler F	360S-AS-037 **
Linkage Editor E	360S-ED-510**
TESTRAN	360S-PT-516**
Basic Direct Access Method (BDAM)	360S-DM-509**
Basic Telecommunications Access Method (BTAM)	360S-CQ-513**
QTAM Queued Telecommunications Access Method (QTAM)	360S-CQ-519 **
Graphic Programming Services	360S-IO-523**
Indexed Sequential Access Methods (BISAM, QISAM)	360S-IO-526 **
Sort/Merge	360S-SM-023 **
FORTRAN IV E	360S-FO-092 Note 1**
FORTRAN IV G	360S-FO-520 Note 1**
FORTRAN IV H	360S-FO-500 Note 1**
FORTRAN IV Library	360S-LM-501 **
COBOL E	360S-CO-503+Note 1**
COBOL E Library	360S-LM-504
COBOL F	360S-CB-524 Note 1**
COBOL F Library	360S-LM-525 **
PL/I F	360S-NL-511 Note 1 **
PL/I Subroutine Library	360S-LM-512**
ALGOL F	360S-AL-531+
ALGOL F Library	360S-LM-532 Note 1
SER0, SER1, &EREP for Model 40	360S-DN-527**
SER0, SER1, &EREP for Model 50	360S-DN-528**
SER0, SER1, &EREP for Model 65	360S-DN-529**
SER0, SER1, &EREP for Model 75	360S-DN-530**
Report Program Generator	360S-RG-038
MVT	360S-CI-535**
On-Line Test Executive Program	360S-DN-533***
Graphic Subroutine Program	360S-LM-537***

* Component change with this release.

** Component new with this release.

\+ Components not supported for operation in an MVT (360S-CI-535) environment.

Note 1: To use language compilers, the corresponding library is required.

If either 9-track (800 bpi or 1600 bpi) or 7-track (800 cpi) magnetic tape is not specified on the IBM Program Order form, 9-track at 800 bpi will be forwarded.

Magnetic tapes may be ordered or forwarded or disk packs may be forwarded in accordance with current procedures as described in the DP Sales Activity section of the Branch Office Manual.

Orders currently in transit to PID will be filled with the Release 13.

Table #1

OS/360 Release 13 Component Sizes:

Component Name	360S*	Notes	Distribution Volume Library Space (2311 tracks) DLIB01 Starter System	SYS1. PROCLIB	SYS1. PLILIB	SYS1. FORTLIB	SYS1. COBLIB	SYS1. SORTLIB	SYS1. MODLIB**	SYS1. GENLIB	DLIB02* SYS1. MACLIB	SYS1. SAMPLIB
Starter System (2311)	CI-514	7	590									
Primary Control Program	CI-505	1, 8		6				125		976	97	4
MVT	CI-535	9						80				
Primary Data Management	DM-508	1						62		114		
Direct Access Method (BDAM)	DM-509	5						12		3		
Indexed Sequential (ISAM)	IO-526	6						45		4		
Basic Telecommunications (BTAM)	CQ-513							7		47		
Queued Telecommunications (QTAM)	CQ-519							30		53		
Graphic Programming Service	IO-523							19		120		34
Assembler E	AS-036	1			4			43				10
Assembler F	AS-037	4			4			40				
TESTRAN	PT-516				5			25		54		
Sort/Merge	SM-023				2			12 79				15
Linkage Editor E	ED-510	1			3			30				
OS/360 Utilities	UT-506	1			2			78				8
Independent Utilities	UT-507	1										33
COBOL E	CO-503	5			3			101				29
COBOL E Library	LM-504	3					11					
COBOL F	CB-524	5			4			86				5
COBOL F Library	LM-525	3						9				
FORTRAN E	FO-092	5			4			30				8
FORTRAN G	FO-520	5			4			24				7
FORTRAN H	FO-500				4			195				7
FORTRAN Library	LM-501	3				1		27				
PL/I F	NL-511	5, 6			4			266				4
PL/I Library	LM-512	3				53		30				
RPG	RG-038				4			52				4
SER0, SER1, EREP Model 40	DN-527	2						21				
SER0, SER1, EREP Model 50	DN-528	2						24				
SER0, SER1, EREP Model 65	DN-529	2						21				
SER0, SER1, EREP Model 75	DN-530	2						22				
ALGOL	AL-531				4			30				4
ALGOL Library	LM-532	3						17				
On-Line Test	DN-533							3				
Graphic Subroutine Program	LM-537							31				

* DLIB01 if space is available and if the Starter System or the Primary Control Program or both are not ordered.

** On DLIB03 if the full OS/360 is received.

Notes:

1. Minimum component for a system able to perform system generation. See also Note 4 where appropriate.
2. Recommended use.
3. Used by and required with the preceding component(s) in the chart.
4. Alternative component to the preceding component in the chart. Either or both may be selected.
5. BDAM is required by the direct access statements of COBOL, FORTRAN, and PL/I.
6. ISAM is required by object programs using the Indexed Organization.
7. Required with initial orders; subsequent orders may be processed by the user's own system. The Starter System actually contains several libraries, as described in the Starter Guide SRL (C28-6630).
8. Required with orders for processors, since the SYS1.GENLIB contains the related system generation macro instructions.
9. MVT users must order both 360S-CI-505 and 360S-CI-535.

Note to World Trade Readers. This is a reprint of an IBM P-Letter and was mailed concurrently to USA and WT offices. The following changes should be applied to the text for WT use. [1] Programs announced as available have been shipped to WT Program Libraries. Programs may be ordered as indicated on pages 9013-9017, PGM. Sec., WT DP Sales Manual. [2] Advance copies of form numbered publications mentioned above have been shipped or will be, when available. Availability will be announced in the Weekly Publications Letter. [3] When a new version of a program is announced current users must order it; they will not receive it automatically. [4] If DTR Distribution is indicated above, program distribution media may differ based on local conditions. [5] References made to PID means the appropriate WT Program Library. [6] Any reference made to DPD Depts. (or Regions) as sources of information means the comparable WT Dept. (or corresponding organizational level). [7] Communications facilities may be required which are not offered in all WT countries. In case of doubt as to availability of suitable facilities, consult the country TP Coordinator. [8] References made to Engineering Changes required should be verified with the local CE Office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

System/360 Operating System

Here are two important OS/360 programming announcements:

[1] MFT Version II ... A significant expansion of MFT ... available July 31, 1968.

[2] The Graphic Job Processor ... A new way to initiate job processing ... available October 31, 1968.

Highlights of these announcements are below ... details and illustrated examples are on the following pages.

OS/360 MFT Version II
Multiprogramming with Fixed Number of Tasks

MFT-II brings full multijob capability to users with 128K or more of main storage. It is designed to operate where the use of main storage and the Job Class Facility is pre-planned. Considerable flexibility is obtained by providing Operator Changeable partition sizes and job classes. The new features and extensions to MFT include:

Multijob Capability -- up to 15 problem program partitions plus system readers and writers.

Significant job scheduling extensions --

- Job Class Facility
- Priority Scheduling
- Independent Partition Scheduling
- 26K or 44K Scheduler
- Partitions can be as small as 8K

Operator Changeable Partition Definition

Multiple Input Readers

Input Job Stream from Direct Access Storage (Disk SYSIN)

Multiple Output Writers with Multiple Output Classes

System Restart Capability

Graphic Job Processor

Graphic or batch jobs can be scheduled directly from the 2250 Display Unit with this new processor. It interacts with the user asking him to supply, via keyboard and light pen, the information necessary to describe his job and its data. It simplifies job initiation by allowing the user to:

Enter Job Control Facts ... the processor generates Job Control Statements

Enter input stream data through the 2250

Initiate and control graphic applications from the 2250

Specify and queue jobs for batch processing from the 2250.

See Page 4 for further information.

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: October 26, 1967

Distribution: All Areas

OS/360 MFT VERSION II
MULTIPROGRAMMING WITH A FIXED NUMBER OF TASKS

MFT-II significantly extends the facilities and effectiveness of MFT. It is designed to provide a multijob capability for the intermediate size system and allows the user to plan an operating environment that meets a variety of requirements.

To aid in your planning, the following topics are discussed:

- Description of New Facilities
- Basic System Planning
- Illustrated Examples
- Special Considerations -- MFT users

DESCRIPTION OF NEW FACILITIES

Multijob Capability

With this new capability, the user can define a configuration which provides job to job transition in any partition for both user applications and system functions, such as program compilation. As a result, main storage, CPU Time, and I/O devices can be better utilized.

A multijob system can be defined by the user with as many as 52 partitions each capable of "concurrently" using the processor (one task per partition). Any combination of problem program partitions (up to 15), reader partitions (up to 3), and writer partitions (up to 36) is allowed.

Relative task priorities are the same as the current MFT. The first defined partition has the highest dispatching priority, the last has the lowest. Problem programs and readers or writers can occupy any partition and therefore can have any relative dispatching priority.

Scheduling Extensions

The Job Class Facility allows the user to optimize the use of system resources by grouping jobs according to their requirements for system resources, and to control the job combinations that run concurrently. For example, a user can specify a separate class for jobs according to:

High vs. low CPU use.

Setup vs. non-setup.

Use of I/O devices, such as tapes, Graphic devices, etc.

Use of specific data sets, such as "preallocated" work data sets.

Large vs. small partition size.

The class of a job is specified by the CLASS parameter of the JOB card. The class that a partition can execute is defined at system generation time or by the operator. The input reader stacks jobs in a logically separate work queue for each job class. Work for a particular partition is selected from the job queue associated with that partition's job class. Partitions can be assigned one, two or three of the 15 possible job classes A to O.

The Priority Scheduler initiates jobs by priority within job class. Job priority is specified on the JOB card.

Independent Partition Scheduling permits jobs to be initiated and terminated in each partition as required (without need for SHIFT or WAITR). Input-output devices and Direct Access Storage are allocated to the job step from available resources when the step is initiated, as in the current MFT. These resources are released when the job step is complete.

The user can select either a 26K or a 44K Scheduler. Both provide the same function. The 44K Scheduler provides better performance when scheduling is in 44K or larger partitions. The 26K Scheduler is designed for configurations where there is frequent scheduling in 26K to 44K partitions. At least one scheduler sized partition is required.

Partitions smaller than the scheduler (8K minimum) can be defined, allowing the user to assign main storage according to job requirements rather than system requirements. Scheduling of small partitions is deferred until job completion in a scheduler-size partition.

Operator Changeable Partition Definition

The partition size, number, and job class can be changed by the operator without re-initializing the system.

Input Readers

As many as three separate input streams can be read concurrently. Each reader processes Job Control Statements, builds work queues, and transcribes input data sets to direct access storage for later problem program use. Multiple data sets in the input stream within the same job step are allowed. Input readers may be resident or transient.

Resident readers occupy a unique "reader-class" partition which is not used for other work unless the partitions are redefined. Its advantage is immediate availability. Also, it can process a blocked input stream from Direct Access Storage or Magnetic Tape.

The transient reader conserves storage by executing in a problem program partition between jobs. It reads jobs which may be for any class until encountering a job assigned (by class) to its partition. Then the reading stops and the job executes in the partition; the reader resumes activity in another partition, or in the same partition after job completion, without operator action.

Output Writers

System and program output (SYSOUT) go directly to direct access storage. At job termination output is transcribed from direct access storage to printers, punches, or magnetic tape. SYSOUT classes (up to 36) can be used to optimize writer operation by classifying output characteristics such as priority, forms or output device type. Output writers (up to 36) each require 10K main storage plus buffer areas if blocking is desired. Writers may also be resident or transient.

A resident writer occupies a unique partition. It can be started by the operator any time. A transient writer executes in any sufficiently large problem program partition upon operator command, and starts operating when the partition's current job terminates. When the operator stops a transient writer the partition is available again for other jobs.

System Restart

Permits input and output work queues to be recovered in case of system failure. Jobs in execution at system termination must be resubmitted, by the operator.

BASIC SYSTEM PLANNING

Careful planning for a multijob environment will provide a sound base for a successful installation. Planning should include a careful analysis of the user's application requirements to assure that sufficient system resources (main storage, direct access, channels, and I/O devices) are provided. The operating environment should be determined prior to installation.

The number and the size of the problem program partitions are the primary considerations for establishing main storage requirements. Both depend on the user's applications and desired operating environment. Storage needs for major applications, including access methods and I/O buffer areas, should be estimated. The IBM processor levels and their storage requirements should be determined. Other storage considerations include: the number of resident writers and readers and their blocking, future needs of the user, and the size of the system's nucleus.

Direct Access Storage requirements should be determined by considering the application needs, size of the SYSIN/SYSOUT queues and auxiliary storage required for system residence.

Channel requirements are also an important part of planning for a multijob system. The planner should estimate channel loads for frequent long duration jobs, such as concurrent peripheral operations, file updating or tape search applications. Other channel needs should be estimated assuming an "average" mix of jobs in the various partitions.

Sufficient I/O devices must be provided to support the number of partitions planned taking into consideration the particular job classes to be processed concurrently. Sufficient tape drives should be provided so that a reasonable combination of jobs can run in the various partitions. Sufficient direct access devices are required to prevent excessive access mechanism movements. The planned configuration should include enough unit record devices to keep up with printing and card demands.

The operating environment is determined by establishing job classes and partition number and size. Several different configurations may be required to meet demands at different periods of the day. The examples that follow illustrate some of the considerations for planning the operating environment.

See the SRL "IBM System/360 Operating System: Planning for Multiprogramming with a Fixed Number of Tasks, Version II (MFT-II)" C27-6939, for selection, evaluation, and implementation of MFT-II configurations. It discusses concepts, planning considerations, storage estimates, system generation and operating considerations.

ILLUSTRATED EXAMPLES

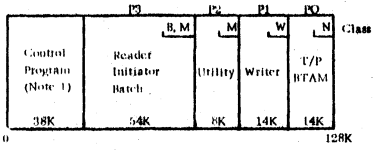
The following examples illustrate briefly how the partitions might be defined, used and redefined. They also illustrate both the flexibility of the system and the need for planned environment. For each example the typical installation requirements are described, the nature of the jobs are summarized in table form, a main storage layout is shown, and the features of the configuration are highlighted.

EXAMPLE 1

A 128K Configuration with Tele-processing -- for the small user with "commercial" jobs, and a Tele-processing application who wants to write output and perform utility functions concurrently with his batch jobs.

Job Class	Description	Job Duration	Storage
A	Scheduled Production	Long	62K
B	Scheduled Production & Program Checkout	Medium & Short	54K
M	Utility	Medium & Short	8K
N	Tele-processing - BTAM	On Demand	14K
W	Resident Writer	On Demand	14K

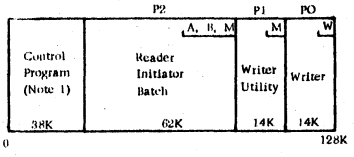
Tele-processing and Batch Environment (Day shift)



Features

- A Tele-processing job executing in the high priority partition (P0) during business hours.
- A resident writer (in P1) for concurrent printing of SYSOUT data. Performanced is enhanced by 4K for blocked SYSOUT.
- Efficient use of resources by running small utility jobs concurrently with batch jobs. Usually two I/O devices and a small amount of CPU time are sufficient for utility jobs. The function of the utility partition is enhanced by a second printer and card reader.
- Initiation of utility jobs in partition P2 by the initiator in partition P3 between jobs, in P3.
- A 54K batch partition (or two batch partitions) which executes concurrently with the other three partitions. Class B jobs are scheduled in priority order. Class M jobs are executed here if there are no class B jobs.
- A 44K Reader and Initiator for performance.

Batch Environment (Night shift)



Features

- Partitions redefined for production normally scheduled at night.
- A 62K batch partition for larger production programs. If needed during the day, this partition could be created by the operator by combining partitions P3 and P2. The execution in partitions P0 and P1 would not be affected.
- A second writer (in P1) to handle peak output loads.
- A user designed multifunction utility (also operates in P1) to edit and prepare large input tapes and to print reports from application output tapes. Once it is scheduled, it can perform many functions. There are several advantages to this approach, particularly for the small machine user.

  Direct access storage requirements are reduced by putting application input and output on tape.

  Report output tapes can be saved to satisfy requests for more copies.

  Input data can be edited before the job is scheduled.

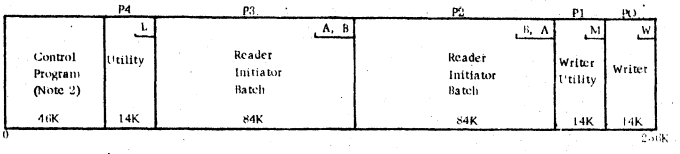
  The initiator in partition P2 is not required to initiate new operations in partition P1. Long jobs can therefore run in partition P2 without delaying execution in P1.

EXAMPLE 2

A 256K Configuration for Multijob Operation -- for the user with "commercial and scientific" jobs who wants to reduce computer idle time due to set-up. He also wants to satisfy his needs for output writing and small utility jobs by running them concurrently with this batch jobs.

Job Class	Description	Job Duration	Storage
A	Limited setup Jobs	Medium & Short	84K
B	Setup Jobs	Medium & Short	84K
L or M	Utility	Medium & Short	14K
W	Resident Writer	On Demand	14K

Multijob Batch Environment



Features

- Two 84K batch partitions, one primarily for non-setup jobs the other for setup. This arrangement has several advantages:

  Setup is overlapped with job execution as long as there are non-setup jobs.

  Overall efficiency is improved because non-setup jobs tend to use more CPU time, while setup jobs tend to use more I/O time. The system is therefore better balanced.

  Either partition can use IBM processors, level F and G.

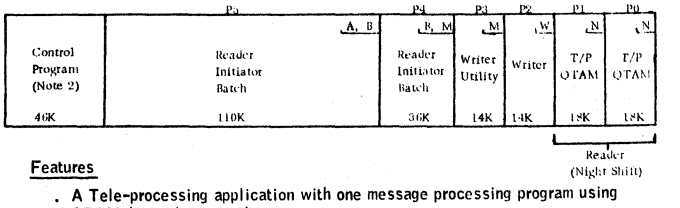
  Reduces contention for tape drives, since the "multi-drive" jobs will normally run in partition P2 concurrently with "limited-drive" jobs in partition P3.
- A 14K utility partition for functions like those in example 1. It is shown here with a low CPU dispatching priority to illustrate the user's ability to establish any desired priority for any class of jobs.
- Two output writers, including one that can alternate with a second utility partition as needed. Performance is enhanced by 4K for blocking.
- One 44K transient reader which executes in either partition.

EXAMPLE 3

A 256K Configuration for Tele-processing and Multijob Operation -- for the user with a wide variety of jobs, large and small, including message switching (handled by QTAM). For scheduled production at night he wants to efficiently process large volumes of data in the input stream.

Job Class	Description	Job Duration	Storage
A	Production & Program Checkout	Medium & Short	110K
B	Production	Medium & Short	36K
M	Utility	Medium & Short	14K
N	Tele-processing (QTAM)	On Demand	36K
W	Resident Writer	On Demand	14K

Multijob and Tele-processing Environment (Day shift)



Features

- A Tele-processing application with one message processing program using QTAM during business hours.
- Two batch partitions (P4 & P5) designed to optimize storage. They meet the needs of a user with a mixture of large and small programs.
- A 26K Reader and Initiator which can execute in either batch partition.
- Separate Transient Readers for partitions P4 and P5 (day shift). Each reader has its own card reader and normally reads jobs for its partition. Either reader can read jobs for the utility partition (P3) or the other partitions. The readers can utilize main memory above 26K for buffers allowing problem program input to be blocked as it is transcribed to direct access storage.
- At night the partitions are redefined to include a Resident Reader in the QTAM partitions. This reader executes concurrently with the problem programs in other partitions and therefore provides high performance.
- Two output writers including one that alternates with a utility function (P3).

Note 1 Control program size estimate includes: Multiplexer and two selector channels, 1052 console, two card readers, two printers, one card punch, eight 2400 Magnetic Tape Drives, six 2311 Disk Storage Drives, five Tele-processing lines on one line group, Storage protection, BDAM, BTAM, ISAM, SER0, 15 selected resident QSAM and BSAM modules, and work space for four partitions.

Note 2 Control Program size estimate includes: A Multiplexer and three selector channels, 1052 console, two card readers, three printers, one card punch, eight 2400 Magnetic Tape Drives, a 2314 Direct Access Storage Facility, a 2321 Data Cell Drive, record overflow, ten Tele-processing lines on two line groups, storage protection, BDAM, QTAM, ISAM, Interval Timing, SERI, 15 selected resident QSAM and BSAM modules, and work space for six partitions.

SPECIAL CONSIDERATIONS -- MFT Users

Customers now using MFT or planning to use MFT before the release of Version II must be advised by their IBM Marketing Representatives of the following:

1. The programming support described in this announcement will replace the existing MFT.
2. The 18, 44 and 100 K Sequential Schedulers in MFT will be replaced by the new 26K and 44K Priority Schedulers in Version II.
3. The Reader/Interpreter in MFT will be replaced by a new Reader/Interpreter which transcribes input data in the job stream to direct access storage prior to program execution. Programs which interface directly with MFT Readers/Interpreters and Schedulers may be required revision, prior to using MFT-II.
4. MFT-II will be supported only for systems with 128K or more of main storage. QTAM will also be supported for 128K system or larger since it requires MFT or MVT.
5. System Messages and "SYSOUT=" output is transcribed to direct access storage for subsequent processing by an output writer.
6. The MFT Checkpoint/Restart facility will not be available in the July 31 release of MFT.
7. Automatic Volume Recognition, currently supported by MFT, is not provided in MFT II. It is not provided because the priority scheduler selects the jobs from a queue, and the operator will not always know in advance which job's volumes ought to be mounted.
8. OS/360 Release 13 will allow MFT users to specify partitions as small as 6K. For future compatibility with MFT-II, users should specify partition sizes of 8K or larger.

GRAPHIC JOB PROCESSOR

This new processor allows an application user, such as an engineer, to conveniently initiate and control jobs directly from the 2250 Display Unit. In addition, the application programmer will find that it speeds the preparation of Job Control Statements by asking for essential information and automatically formating it for OS/360.

The jobs to be scheduled may be either graphics jobs which will utilize the 2250 Display in the operator's next application, or may be requests for batch processing.

The Graphic Job Processor elicits job control information from a user by presenting displays on the 2250 screen. The user responds to the displays by entering requested information and/or selecting appropriate options using the alphameric keyboard, or a combination of the alphameric keyboard and the light pen. This procedure replaces the current requirement for submitting standard Job Control Statements via the job stream. Once information is entered, the Graphic Job Processor converts it into OS/360 Job Control Language format, and submits the job for processing at the user's request.

The Graphic Job Processor provides operations that allow the user to:

- Identify himself to the system (LOG ON).
- Define one or more job steps (SPECIFY JOB STEP).
- Identify data to be used in a job step (DESCRIBE DATA).
- Start the processing of a job (BEGIN JOB).
- Start a cataloged procedure (BEGIN PROCEDURE).
- Communicate with the system operator (WRITE MESSAGE).
- Enter 80-character data or job control records (ENTER DATA).
- Cancel a job he is currently defining (CANCEL JOB).
- Repeat previously completed operations (RECALL).
- Complete use of the 2250 and prepare it for the next user (LOG OFF).

The Graphic Job Processor provides:

- Simplified job control operations, directed toward users who are not familiar with the details of OS/360.
- Description, initiation, and control of job processing exclusively from the 2250.
- Concurrent use of several 2250's, with each user's control operations and subsequent job processing occuring independently of other users.
- Jobs can be queued for batch processing (using main storage areas and facilities that are not associated with the 2250), allowing the user to continue his operations at the 2250.
- Each user can obtain a printed listing of his operations at the 2250.
- Messages displayed on the screen inform the user of system actions pertaining to his job.
- JCL statements may be entered directly in OS/360 format.

Note that the use of the Graphic Job Processor from a 2250 does not replace the normal OS/360 console requirement.

Approximate Main Storage Requirements

Graphic job processing capacity is a function of core storage available, operating system options used, and application requirements.

Example 1: System/360 with 256K main storage, using MFT-II will support up to three graphic partitions:

Control program nucleus, (Note 3)	44K
Output writer	10K
Graphic Interface Task (GFX)*	10K
Graphic application A using 2250**	60K
Graphic application B using 2250**	60K
Graphic application C using 2250,** or batch processing from normal job queue	72K
	256K Total

Example 2: System/360 with 512K main storage, using MVT:

Resident Control Program and one output writer (Note 4)	118K
Graphic Interface Task (GFX)*	10K
Graphic application A using 2250 **	60K
Graphic application B using 2250 **	60K
Graphic application C using 2250 **	60K
Graphic application D using 2250 **	104K
Available for one initiator (FORTRAN G jobs)	100K
	512K

*The Graphic Interface Task (GFX) is started and stopped by the operator and must be in main storage when any partition is using the Graphic Job Processor or executing a job started by the processor.

**Each graphic partition or region must be at least 60K for processor operations. The applications scheduled by the processor may require more than 60K and the user should plan his main storage requirements accordingly.

System Requirements:

- Either of the multiprogramming configurations (MFT-II or MVT) of Operating System/360.
- Graphic Programming Services with Basic Attention Handling (360S-10-523).
- IBM 2250 Display Unit, Model 1 or Model 3 equipped with a minimum of 4096 bytes of buffer storage, the alphameric keyboard, and the character generator.

Reference Publications: IBM System/360 Operating System: User's Guide for Job Control from the IBM 2250 Display Unit, (C27-6933)

IBM System/360 Component Description: IBM 2250 Display Unit Model 1; (A27-2701).
IBM System/360 Component Description: IBM 2250 Display Unit Model 3; IBM 2840 Display Control Model 2, (A27-2721).

Note 3 Control program size estimate includes: A Multiplexer, a selector, 1052 console, three unit record devices, three 2250 Display Units, three 2400 Magnetic Tape Drives, three 2311 Disk Storage Drives, Graphic Programming Services, Storage protection, SERI interval timing, selected resident QSAM, BSAM and graphic access modules and work space for five partitions.

Note 4 Control program size estimate includes: A Multiplexer and two selector channels, 1052 console, five unit record devices, four 2250 display units, twelve 2400 Magnetic Tape Drives, one 2314 Direct Access Storage Facility, four additional transient areas, Job step timing, SERI, a link pack area, a system queue area of 20K, and Graphic Programming Services.

Note to World Trade Readers. This is a reprint of an IBM P-Letter and was mailed concurrently to USA and WT offices. The following changes should be applied to the text for WT use. [1] Programs announced as available have been shipped to WT Program Libraries. Programs may be ordered as indicated on pages 9013-9017, PGM. Sec., WT DP Sales Manual. [2] Advance copies of form numbered publications mentioned above have been shipped or will be, when available. Availability will be announced in the Weekly Publications Letter. [3] When a new version of a program is announced current users must order it; they will not receive it automatically. [4] If DTR Distribution is indicated above, program distribution media may differ based on local conditions. [5] References made to PID means the appropriate WT Program Library. [6] Any reference made to DPD Depts. (or Regions) as sources of information means the comparable WT Dept. (or corresponding organizational level). [7] Communications facilities may be required which are not offered in all WT countries. In case of doubt as to availability of suitable facilities, consult the country TP Coordinator. [8] References made to Engineering Changes required should be verified with the local CE Office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

IBM World Trade Data Processing 67-116 Program Announcement

CONTENTS

Time Sharing System/360 ... Version 1 available.

Published by DP Sales Publishing Services, WTHQ

TIME SHARING SYSTEM/360

TSS/360, Version 1 is now available. Significant changes to this system, minimum system configuration, and engineering change level required are indicated below. Revised sales manual pages will be distributed at a later date.

Significant Changes

Minimum DASD Requirements

A minimum of five 2311s or five 2314 modules are required for system use. This represents an increase of two 2311s or two 2314 modules over previous minimum system requirements. In addition, five 1316 or 2316 disk packs are required. This is an increase of two disk packs over previous minimum system requirements.

Note: The restriction that all system required 2311 or 2314 modules be attached to the same control unit (addresses 0-7) remains in effect.

Additional Hardware Supported

2844 Auxiliary Storage Control
1403 Model 3 Printer
1051 Mdl 1 Control Unit and 1052 Mdl 1 Printer Keyboard
TELETYPE 33KSR

Release 1 Limitations

Duplex Configuration Support - TSS support of a Duplex configuration has not been tested to date. Duplex configurations are not now supported.

Extended Dynamic Address Translation Support - Support for 4,096 segments (32 bit addressing) is not available.

Withdrawals

The System Edit Program no longer exists as a separate entity. It has been replaced by a procedural mechanism using existing system functions to provide a system edit capability.

Support of the 2822 Paper Tape Reader Control and the 2671 Paper Tape Reader is withdrawn.

Minimum System Configuration

The minimum system configuration is: one 2067 mdl 1; two 2365 mdl 2s; one 2860 mdl 2 or two 2860 mdl 1s; one 2870 mdl 1; one 2821 mdl 1 or 5; one 1403 mdl 2 or (3 or N1 with one 1416 Mdl 1); one 2540 mdl 1; one 2820 mdl 1; one 2301 mdl 1; one 2314 mdl 1 or one 2841 mdl 1 and five 2311s; one 2803 mdl 1 and two 2401 mdl 1, 2 or 3s or one 2402 mdl 1, 2, or 3 or one 2403 mdl 1, 2, or 3 and one 2401 mdl 1, 2 or 3; one 2702 mdl 1; one 1052 mdl 7; one 2741 mdl 1 or one 1051 mdl 1 or 2 and one 1052 mdl 1 or 2; five 1316 or 2316s.

See "P 360/67 Programming Pages" in the Sales Manual for additional hardware features and RPQs required.

Engineering Changes

The following Engineering Change levels are requisite for correct operation of the Time Sharing System:

unit	level	ECA
2067-2	EC 705290	15
2067-1	EC 705290 +REA 21421 +REA 21424	15
2365-12	EC 705306	37
2365-2	EC 257197	28
2846-1	EC 705292 (EC 705319 only if 2314 with two-channel switch is on system.)	N/A N/A
2860	EC 708892 (+REA 93960 and REA 21910 if 2314 with two-channel switch is on system.)	34
2870	EC 705770	16
2167	EC 705202	N/A

Dependency Programs

There are no Dependency Programs for the operation of the Time Sharing System/360.

A tape to card utility, (ex. - BOS, OS, independent) is necessary for the retrieval of the TSS independent utilities. These utilities are packaged as the first file of the System Volume Restore tapes. All of the utilities can be loaded and executed directly from the tapes with the exception of the Core Dump Program. To use the Core Dump it must be punched from the tape. IBM BPS Utility Program -- tape to card (program number 360P-UT-053) may be used for this purpose.

TSS processes both labeled and unlabeled tapes. To prelabel tapes for use with TSS a tape initialization program is required (ex. BOS, OS, independent). IBM BPS Utility Program Initialize Tape (program number 360P-UT-057, Version 3) may be used for this purpose.

To load the IBM 2821 Control Unit's Universal Character Set Buffer a utility is required (ex. BOS, OS, independent). IBM BPS Universal Character Set Utility Program (program number 360P-UT-048) may be used for this purpose.

Reference Material

Assembler Language, C28-2000-2 ... Concepts and Facilities, C28-2003-2 ... FORTRAN IV, C28-2007-1.

Basic Program Material

SRL Publications: Time Sharing System/360 -- System Generation and Maintenance, C28-2010 ... Operator's Guide, C28-2033 ... Independent Utilities, C28-2038 ... Terminal User's Guide, C28-2017-1 ... System Programmer's Guide, C28-2008 ... System Messages, C28-2037 ... Command Language for Mgrs and Admin, C28-2024 ... Command Language User's Guide, C28-2001-1 ... Assembler User Macro-Instructions, C28-2004-1 ... Assembler Programmer's Guide, C28-2032 ... Linkage Editor, C28-2005-1 ... FORTRAN Programmer's Guide, C28-2025 ... FORTRAN Supplied Subroutines, C28-2026 ... Support for Time Sharing, C28-2035 ... Addendum, C28-2043.

Documentation -- Program Material List ... System Prose ... Special Instructions.

Machine Readable -- The complete TSS/360 is distributed:

For the five Drive 2311 User, 360G-CL-625 -- On two 2400 foot reels of magnetic tape (9-track, 800 bpi).

For the 2314 User, 360G-CL-626 -- On four 2400 foot reels of magnetic tape (9-track, 800 bpi).

Ordering Procedure

Controlled Marketing

Because of the unique characteristics of TSS, the TSS Controlled Marketing Policy remains in effect. Accordingly, Model 67 systems may not be proposed or sold without prior approval of the office of the Regional Vice President.

In addition, customers planning to use TSS must be notified in writing of certain points. The required letter which must be sent by the branch manager is on the reverse side.

When ordering the Time Sharing System/360, the requester will receive all Program Components. There are none available separately.

There are two types of System Residence available for the Time Sharing System. The requester must indicate the type of System Residence by specifying the appropriate Program Number on the Program Request Card:

Use 360G-CL-625 when System Residence is the 2311.
Use 360G-CL-626 when System Residence is the 2314.

If only the publications or if additional copies are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

Magnetic Tapes (2400') may be forwarded to PID with the program order card or ordered.

John Fahey
Director of DP Marketing

Release Date: October 26, 1967
Distribution: All Areas

Dear _____:

IBM is now distributing Version 1 of TSS from our Program Information Department as we announced in January of this year. The attached document represents changes to this version as described in January.

In addition, I would like to remind you of several points pertaining to TSS.

1. Although the throughput capability of the present TSS system is considerably better than expected in January, the ultimate performance of the system (which includes throughput, reliability, and usability) cannot be predicted at this time.
2. In order to enhance the performance of TSS, it may become necessary to introduce improvements which are not fully compatible with this version. However, every effort will be made to minimize the effect of any incompatibilities.
3. Use of this version should be for experimental, developmental, or instructional use until such time as the TSS programming system has been proven acceptable for production purposes.

Your account representative will be working with your people and is available to answer any further questions.

Sincerely,

Branch Manager

ATTACHMENT

Time Sharing System/360

Significant Changes to TSS

(a) Minimum DASD Requirements

A minimum of five 2311's or five 2314 modules are required for system use. This represents an increase of two 2311's or two 2314 modules over previous minimum system requirements.

(b) Additional Hardware Supported

(1) 2844 Auxiliary Storage Control
(2) 1403 Model 3 Printer
(3) 1051 Model 1 Control Unit and 1052 Model 1 Printer Keyboard
(4) TELETYPE 33KSR

(c) (1) Duplex Configuration Support - TSS support of a Duplex configuration has not been tested to date. Duplex configurations are not now supported.

(2) Extended Dynamic Address Translation Support - Support for 4096 segments (32 bit addressing) is not yet available.

(d) Withdrawals

(1) The System Edit Program no longer exists as a separate entity. It has been replaced by a procedural mechanism using existing system functions to provide a system edit capability.

(2) Support of the 2822 Paper Tape Reader Control and the 2671 Paper Tape Reader is withdrawn.

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CONTENTS

1130 and System/360 Automated Chemistry Programs ... preliminary Application Description Manual for System/360 is available. (A)

System/360 Vehicle Scheduling ... correction. (B)

[A] 1130 and System/360 Automated Chemistry Programs (ACP)

These programs will be available as announced in P67-93.

Availability and form number of the Application Description Manual for the System/360 Automated Chemistry Program will be announced in a Publication Release Letter. However, preliminary copies of the manual are now available and may be obtained from Industry Development - Medical, DPD HQ.

The 1130 Application Description Manual will be available in November 1967.

See the reverse side for the text that will appear in the sales manual. For further information get in touch with your Regional Medical Industry Marketing Representative.

[B] System/360 Vehicle Scheduling Program

Please change the contents section of P67-113 to read:

System/360 Vehicle Scheduling Program (VSP) ... an application program to be available September 16, 1968.

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Attachments [11]: [1-6] P 1, P 3, P 5, P 7, P 9, P 11 ... [7-10] P 15, P 17, P 19, P 21 ... [11] P 360S.11.

Release Date: October 31, 1967

Distribution: All Areas

1130 and System/360 Automated Chemistry Programs: These programs are for support of the IBM 1080 Data Acquisition System in the clinical laboratory.

Description: These programs will be able to process, on either an 1130 or System/360, the punched card output of the IBM 1080 Data Acquisition System.

Processing of 1080 Punched Card Output -- Establishes the calibration function from control standards ... checks the quality of the control standards used ... determines the standard deviation of the standards employed for quality control purposes ... computes the test result ... adjusts the test result for instrument drift that might have occurred ... adjusts the test result for interaction between specimens (high concentration followed by low concentration) ... compares test result with mean and standard deviation of cumulative data for all results for that test ... associates each test result with the proper specimen identification number.

Setting Up A Test Result File -- Sets up a file by specimen number, and tests results for each test ordered ... the data from this file can be transferred to and integrated with a Patient Master Record by user-written routines.

Print Out Of Quality Control Report -- Prepares a quality control report for review by the laboratory prior to release of test data for distribution to the ward or clinic ... the quality control report lists for each specimen processed: test result, dilution factor (if any), abnormal indication for 1 or 2 standard deviations, and specimen number.

Features: These programs encompass the following unique features that produce more reliable test results -- check reliability of control standards ... adjust for analyzer drift ... adjust for interaction of specimens with widely differing concentrations ... report quality control information ... flag abnormal test results for retesting of these specimens.

Special Sales Information: The output from these programs can be combined with the user-provided basic patient data and printed by simple user-written routines to serve as a Patient Summary Sheet for tests processed by the Automated Chemistry Programs.

Use: These programs are loaded into the library and called via job control cards ... environmental data are loaded and retained on disk via a maintenance program included with the Automated Chemistry Programs; this is a one time operation for a given operating environment ... 1080 card output can then be processed.

Customer Responsibilities: Providing basic patient data, associating patient number and specimen number ... setting up the 1080 by providing a description of which analyzer strip chart recorders are associated with which 1084, a description of the tests run on each 1084, test number and name, concentration of each calibration-standard, control standards used, and chemistry procedure used.

Programming Systems: These programs are written in FORTRAN and Assembler language. They are designed to operate under DOS on System/360, or under the 1130 Disk Monitor System.

Minimum System Requirements for System/360: A 2030E (32K) with Decimal Arithmetic (#3237), Floating Point Arithmetic (#4427), Selector Channel-First (#6960) ... 1052 Console Typewriter with appropriate attachments ... 1442 Card Read Punch Model N1 ... 1443 Printer Model N1 ... 2841 Storage Control Model 1 ... one 2311 Disk Storage Drive Model 1.

Minimum System Requirements for 1130: An 1131 Model 2B (8K) Central Processing Unit with Disk Storage Drive with 1132 Attachment (#3616), Expansion Adapter (#3854), 1442 Model 6 or 7 Attachment (#4454) ... 1442 Card Read Punch Model 6 ... 1132 Printer Model 1.

Program Support Material: Availability and form number of the Application Description Manual for the System/360 Automated Chemistry Program will be announced in a Publication Release Letter. Preliminary copies may be obtained from Industry Development - Medical, DPD HQ. The 1130 ADM will be available in November 1967.

For further information contact your Regional Medical Industry Marketing Representative.

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IBM World Trade Data Processing

67-119

Program Announcement

System/360 Model 20 Bill of Material Processor

CONTENTS

System/360 Model 20 Bill of Material Processor ... application program to be available October 25, 1968.

Published by DP Sales Publishing Services, WTHQ

The Bill of Material Processor Application Program for System/360 Model 20 with the capability to load, retrieve, reorganize, and maintain part number master and product structure records will be available October 25, 1968.

This application program represents continued support by IBM in the area of manufacturing application definition and implementation. The package provides manufacturing organizations with programs that establish and maintain basic information files describing the structure of products, and a program to provide the retrieval of this information.

The System/360 Model 20 Bill of Material Processor is a direct access file-oriented concept that requires a part number master (inventory-type) file to be on-line simultaneously with a product structure file. The part number master file can be loaded, maintained, and reorganized using programs supplied with the Bill of Material Processor, or the user may write his own programs to accomplish these functions. Product structure file load maintenance, and reorganization will be provided by the Bill of Material Processor written in Assembler Language using the Input/Output Control System.

Program Support Material: Preliminary copies of the System/360 Model 20 Bill of Material Processor Application Description Manual will be distributed to each branch manager.

The general distribution version of the Application Description Manual will be available from Mechanicsburg the week of December 22, 1967.

See the back for the text that will appear in the sales manual. For further information contact your Regional Manufacturing Industry Marketing Representative.

John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

Release Date: November 6, 1967

Distribution: All Areas

Model 20 Bill of Material Processor: This program has the capability to load, maintain, retrieve, and reorganize part number master and product structure records.

Description: The program represents continued support by IBM in the area of manufacturing application definition and implementation. The package will contain: generalized source programs to load and maintain product structure and part number master records on IBM 2311 disk files ... generalized source programs to reorganize the product structure and part number master files ... a generalized source program to perform a basic product structure retrievals (single level, indented and summarized parts lists and single level, indented and summarized where-used parts lists).

The System 360 Model 20 Bill of Material Processor is a direct access file-oriented concept that requires the part number master (inventory-type) file to be on-line simultaneously with the product structure file.

Feature:

- User does not have to wait for the release of the Bill of Material Processor to implement his inventory application, because the Part Number Master File is not application dependent.
- Product Structure records are linked to the Part Number Master (inventory-type) records.
- Disk file chaining is used to organize product structure data in two inherent sequences:
  1. Assembly or bill of material sequence (i.e., linking the components of an assembly).
  2. Where-used sequence (i.e., linking the usages of a part number on higher assemblies).
- [illegible] can be included in the product structure file, providing for complete where-used cross reference of each raw material.
- [illegible] own record keyouts by incorporating his own information plus [illegible] data into Part Number Master and Product Structure records.
- [illegible] coding is automatically maintained when adding records to the Product Structure file.
- Assembly to sub-assembly continuity is verified. This feature guarantees that the product structure records can be "exploded."

Plus

- Unidirectional file chains to speed the maintenance of part number where-used data.
- A [illegible] control technique to aid in restart and reconstruction and to [illegible] additional retrieval features.

[illegible] Information: The Part Number Master File cannot be over one-half the [illegible] area. This requirement is necessary because the Part Number [illegible] Program completely rewrites the file, and therefore, [illegible] area equal in size to the old area.

[illegible] that because of multiple levels of control, the user can build his [illegible] procedures into the Product Structure File Load and Maintenance [illegible]

[illegible] Bill of Material Processor will use the Index Sequential File Management [illegible] in the Model 20 Disk Programming System, the user will be able, [illegible] his own part number master file data management programs in [illegible] by the package. This may be done using either RPG or Assembler [illegible]

Use:

- [illegible] Maintenance: The user prepares his bills of material and transactions [illegible] card formats. The programs load and maintain this information on [illegible] structure consistent with the relationship of the data.
- [illegible] prepares a simple inquiry transaction card to request one of his [illegible] structure retrieval reports. The program retrieves the information [illegible] and prints the required document in user-defined format.
- [illegible] At the user's discretion, he can reorganize one or both files with [illegible]

[illegible] A thorough knowledge of Bill of Material Processor concepts, [illegible] Application Description Manual, by the system designer is necessary [illegible] this system, the following steps must be taken -- determine the [illegible] of the records ... design additional input edit routines [illegible] control sequence (up to three levels available) ... design [illegible] routines to implement them ... tailor the Assembler Language [illegible] to fit his requirements.

[illegible] The Model 20 Bill of Material Processor may be run under [illegible] Monitor or the Card-Resident Monitor of the System/360 [illegible] System. The programs are written in Assembler Language [illegible] Control System.

[illegible] A 2020 Processing Unit Model D2 with Disk Storage [illegible] appropriate printer attachment, the appropriate card reader [illegible] card punch attachment ... 1403 or 2203 Printer (48 [illegible]) ... 2501, 2560, or 2520 Model A1 Card Reader ... 2560, [illegible] Punch ... two 2311s (Model 11 or 12).

[illegible] 2520 Model A1 can be used as both the card reader and card [illegible] the Bill of Material Processor.

Program Support Material: Application Description Manual (availability and number will be announced in a Publication Release Letter).

Reference Material: Bill of Material Processor -- A Maintenance and Retrieval System (E20-0114) ... The Production Information and Control System (E20-0280).

For further information contact your Regional Manufacturing Industry Marketing Representative.

Note to World Trade Readers

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IBM World Trade **Data Processing**

P67-120

Program Announcement

CONTENTS

System/360 General Purpose Simulation System ... F-level systems operating under OS/360 is withdrawn. (A)

System/360 Input Conversion Program ... application program to be available June 14, 1968. (B)

Published by DP Sales Publishing Services, WTHQ

[A] System/360 General Purpose Simulation System

Effective immediately, support for GPSS/360 for F-level systems operating under OS/360 is withdrawn. G-level (and greater) versions of GPSS/360 (360A-CS-17X) continue to be supported under OS/360.

Customers with F-level systems should use the DOS/360 version of GPSS/360 (360A-CS-19X), which is already in widespread use. This version provides more space for the user's model than the OS/360 version.

Updated documentation reflecting this change has been sent to all current users of 360A-CS-17X.

All customers affected should be notified immediately.

For further details see the attached sales manual page.

[B] System/360 Input Conversion Program

The IBM Input Conversion Program for System/360 translates cut-form document information from the IBM 1287 Optical Reader into computer-processable data. It requires no programming to implement, is general in nature, and can be applied by a majority of IBM 1287 users. The program will be available June 14, 1968.

The scanning, editing, and posting of data are directed by user specified control statements. Intermixed document types, recorded with a variety of fonts including handprinting, can be processed by the program. The program will verify algebraic sums and self-check digit protected fields. Optionally, character reconstruction techniques are used when applicable. These techniques will minimize document rejections and increase effective throughput.

The IBM Input Conversion Program provides an economical systems solution for the expeditious and accurate data collection required by any advanced data processing system.

Preliminary copies of the Application Description Manual are available from Industry Development Distribution, DPD HQ. Availability (and number) from Mechanicsburg will be announced in a Publication Release Letter.

See the attached sales manual page for detailed information.

John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS"

Attachments [7]: P 360A.7, P 360A.9, P 360A.11, P 360A.29, P 360A.31, P 360A.33, and P 360A.35
Release Date: November 13, 1967
Distribution: All Areas

Note to World Trade Readers

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IBM World Trade Data Processing

67-121

Program Announcement

System/360 Disk Operating System

System Release 14 can now be ordered. First shipments will begin this week. Major new improvements, outstanding features, and maintenance now make DOS/360 a better solution to your customer's growth needs and your selling requirements.

Included in this release are:

- QTAM Autopoll (Concurrent announcement and availability)
- QTAM Audio Response (7770/7772)
- BTAM 1130 Binary Synchronous Communications (S/360 to 1130)
- On-Line Test Executive Program
- Improvements for Tape Label Processing
- FORTRAN Capabilities Expanded
- 1412/1419 Support
- Maintenance

For details see the following pages.

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: November 14, 1967

Distribution: All Areas

- QTAM, 360N-CQ-470

QTAM Autopoll (Concurrent Announcement and Availability)

Support for the 2702 Autopoll Feature (#1319) and 2703 Autopoll capability is provided under DOS/360 QTAM.

The Autopoll feature automatically initiates polling of the next terminal in the user's polling list, upon receipt of a negative response, thereby eliminating the interference required to implement a programmed poll restart.

This programming support significantly reduces the amount of CPU interference resulting from non-productive polling, and can add substantially to the performance capabilities of Tele-processing systems.

QTAM Audio

QTAM has been expanded to include support for the 7770 (Model 3) Audio Response Unit and the 7772 Audio Response Unit. Audio support provides for the receipt of coded data from a terminal and the transmission of an audio response to the originating terminal.

Three modes of operation are provided for the Audio Response Units:

Information Mode - A "canned" audio message is sent to the terminal when initial communication is established between the terminal and the computer.

Inquiry Mode - A single inquiry is made from the terminal and processed by the user's program to determine the answer. The answer is sent to the Audio Response Unit which converts it to audio signals for the inquiring terminal.

Conversation Mode - This mode of operation allows the communication to consist of several inquiries and audio answer messages.

Devices and Features Supported:

2701 Data Adapter Unit
Features - 1302, 1303 Auto Call
Terminals - 1030, 1050, 1060, 2740, AT&T 83B3, AT&T Models 33/35 (TWX) Western Union 115A, and 2260 Display (remote) with 2848 Control Unit.

2702 Transmission Control Unit
Features - 1290 Auto Call Adapter
7918 - 1032 Attachment
1319 - Autopoll
Terminals - 1030, 1050, 1060, 2740, AT&T 83B3, AT&T Models 33/35 (TWX), and Western Union 115A.

2703 Transmission Control Unit
Features - 1315 Auto Call Adapter
Autopoll (Standard Feature)
Terminals - 1030, 1050, 1060, 2740, AT&T 83B3, AT&T Models 33/35 (TWX), and Western Union 115A.

7770 Audio Response Unit Model 3
Terminals - 1001, 1092/1093, TOUCH-TONE*, and Touch-Calling ** telephone.

7772 Audio Response Unit②
Terminals - 1001, 1092/1093, TOUCH-TONE*, and Touch-Calling** telephones.

*TOUCH-TONE -- trademark of the Bell System
**Touch-Calling -- term used by General Telephone System

Minimum System Configuration:

64K bytes of main storage* ... standard instruction set ... storage protection ... one selector channel for system residence ... one multiplexer channel for communications control units ... one card reader (1442, 2501, 2520 and 2540) ... one printer (1403, 1404, 1443) ... one 1052 Printer-Keyboard ... one 2311 Disk Storage Device.... communication equipment necessary to interface to the communication line.

See Sales Manual pages on Programming (DOS/360 Control Program Input/Output) for acceptable units and possible substitutions.

*Recent improvements in the DOS/QTAM programs have increased practical storage requirements for almost all configurations beyond 32K bytes of core storage as indicated below:

QTAM system, using four lines with one 1050 terminal per line, in a message switching application:

Program	Core Storage
DOS/360 Resident Control	8K
QTAM Message Control	16K
QTAM Message Processing	---
Background	10K
	34K

Engineering Change Requirements

The DOS/360 QTAM Autopoll Programming Systems support requires Engineering Change 705801 or 705803 (depending on 2870 serial number) installed on the 2870 Multiplexer Channel. This EC will not be available for installation until December, 1967 and all installations will not be completed until February,1968. Until the availability and installation of this EC the System/360 Models 65, 67 (in 65 mode) and 75 do not support this programming function.

System/360 installations which include 2702s shipped before September 9, 1967 cannot use the Autopoll feature with a 103F Data Set until EC 305396 is installed on the 2702s. Installation will begin this week and will be completed consistent with individual customer needs and machine availability.

- BTAM, 360N-CQ-469

BTAM has been expanded to include support for 1130 Binary synchronous Communications (BSC).

Features: Code flexibility, transmission efficiency, and increased functional capabilities, inherent in the new binary synchronous technology, is now available for communications between the IBM 1130 and System/360 using DOS/360 BTAM.

DOS/360 BTAM provides the following binary synchronous line control functions:

System/360① - to - IBM 1130
Contention (point to point)
Headers and normal text
Inquiry and alternating replies
Transparent text
Dial
Disconnect
Multipoint (centralized)

The 2701/3 features supported for use with the 1130 are:
EBCDIC
Transparent Data
Auto Call/Answer Features
Dual Communications Interface
Autopoll

The 2870 Multiplex Channel when used on the 2065-2075 must be at EC 705801.

Special Features Supported:

Synchronous Data Adapter - Type II (#7698, #7697, #7699) EBCDIC (#9060), ASCII (#9061), Dual Communications Interface (#3463, #3464, #3465), Transparency (#8029), Auto Call (#1314), Dual Code (#3455).

Minimum System Requirements are the same as previously established for DOS/360 BTAM.

Note 1: Model 30, 40, 50, 65 or 75.
Note 2: The direct access device is required for 7772 Vocabulary File only if a 7772 is ordered.

• ON-LINE TEST EXECUTIVE PROGRAM, (360N-DN-481)

The On-Line Test Executive Program (OLTEP) together with associated on-line unit tests allows testing of System/360 I/O devices while operating under control of the Disk Operating System/360 supervisor. OLTEP is a monitor program that controls the execution of individual routines designed to test specific I/O Units. OLTEP can be run either in a dedicated batch-only environment or in the background partition of a multiprogramming system. This allows the user to continue performing productive work during the running of I/O unit tests. Except for specific I/O units being tested, all units of the system remain available to the user.

Significant advantages can be realized using OLTEP. These include:

- Increased system availability
- Improved serviceability
- Productive work (in foreground partitions) during servicing
- System checkout following maintenance

System Requirements -- The minimum system requirements for OLTEP are the same as those required for the Disk Operating System. The On-Line Test Executive Program requires space on the standard system resident device plus space on it for any unit tests to be run.

Unit tests, as they become available for your system, can be obtained from the local CE.

• SYSTEM CONTROL and BASIC IOCS, (360N-CL-453)

Improvements for tape label processing announced in P67-80 are now available. These improvements include:

- Label Statement Cards may be used from day to day without change.
- Simplified Field Definition
- Variable Field Lengths
- Optional Fields
- VOL statements have been eliminated
- Only one statement required
- Current Label Statements are accepted
- Same Statements are usable for Input and Output files
- Processing of multi-volume files may begin on other than the first volume

Minimum System requirements are the same as previously established for DOS/360.

• FORTRAN, (360N-FO-451)

FORTRAN capabilities have been expanded to include handling of standard labeled input or output tapes. Specifically, in the case of input tapes, single volume files or multi-volume can be processed. For output, single volume, single tapes can be created. To utilize this new capability, the FORTRAN user needs only to include the // LBLTYP and //TLBL Job Control statements with his FORTRAN Jobs.

FORTRAN has also been improved to output eleven (11) records per track for sequential disk data sets instead of the ten (10). However, sequential data sets created previously will still be read correctly without modification.

In addition to the above, FORTRAN now creates unformatted records (tape or disk) using the new data interchange code, enabling other DOS/360 Components to process these data sets. The record control information previously used with unformatted binary data sets has been eliminated. Existing unformatted binary data sets that contain record control information must be converted to eliminate the record control information before they can be processed by this level of FORTRAN. The utility program required for the conversion of existing data sets may be obtained from the Field System Centers.

System Requirements

No Special System facilities are required.

• 1412/1419 MAGNETIC CHARACTER READER IOCS, (360N-IO-477)

Here is an important availability announcement for your MICR customers. The 1412 and 1419 Magnetic Character Readers are now supported by DOS/360 in a Multiprogramming and Tele-processing environment. (See P67-32)

Now a user can process MICR applications such as: proof of deposit, transit or inclearing conversion, and at the same time inquire into the central file.

All System/360 attachable models of the 1412 and 1419 and their features will be fully program supported including the 1419 new S/360 Dual Address Adapter (#7730) which substantially improves stacker selection time.

Features:

Functions that the 1412/1419 IOCS perform are:

- Automatically controlled engaging and disengaging of the MICR Readers. User control also provided.
- Reading of MICR documents.
- Automatic entry to user stacker select routine at the completion of each document read.
- Stacker selection of documents.
- Maintenance of a revolving buffer pool.
- Posting of error conditions to the document buffer for user processing.
- Servicing of I/O and External Interrupts.
- I/O error recovery.
- Operator messages for appropriate I/O error conditions.
- Presenting data and unusual conditions for user processing.
- For 1419 only
  Control of programmable pocket lights (optional).
  Control of the batch numbering feature (optional).
- Macro-instruction for efficient operation of multiple Magnetic Character Readers simultaneously within a single program partition.
- Support for all partitions - Foreground/Background.

In addition the 1403 Selective Tape Lister, including the Improved Selective Tape Listing Feature (#6420), is supported by the DOS/360. Support for the Selective Tape Listing Feature allows individual spacing or skipping of desired tapes under program control.

System Requirements

Magnetic Ink Character IOCS requires 32K bytes of storage, and either the Direct Control Feature (#3274) or the External Interrupt Feature (#3895).

• MAINTENANCE OPTION

Maintenance for System Release 14 will not be available on 1316 Disk Packs. If your customer has a disk only system, the entire DOS/360 system must be ordered. See ordering procedures.

NEW DOS PUBLICATIONS

Are you aware of a new aid to understanding job control statements and commands ... the DP Techniques manual, "S/360 DOS User's Guide: Control Statement Techniques", C20-1685.

Through a series of tested job stream examples this publication provides guidance in the use of control statements and brings into perspective for the new user the DOS job stream requirements. The examples are presented in building block fashion. Each new statement is discussed when it is first used. To simulate an installation environment, a specific S/360 machine configuration and DOS system generation are assumed.

The areas covered are:

The input stream ... Compilations ... Standard tape and DASD labels ... Utility programs ... Linkage editing ... Foreground initiation.

In addition order the handy System/360 Reference Data Card for DOS Job Control Statements and Operator Communication X20-1748.

Basic Program Material

The following SRL publications appropriate to the components ordered are shipped by the Program Information Department (PID) with each initial DOS/360 order.

SRL Publications: System/360 Disk Operating System --

Operating Guide	C24-5022-3
Concepts and Facilities TNLs N24-5182, N24-5191, N24-5233, N24-5275, N24-5340	C24-5030-2
Performance Estimates	C24-5032-3
Systems Generation and Maintenance TNLs N24-5324, N24-5309, N24-5320, N24-5266	C24-5033-3
Data Management Concepts TNLs N24-5122, N24-5169, N24-5197, N24-5276, N24-5291	C24-3427-1
System Control and System Service Programs TNLs N24-5218, N24-5289, N24-5248, N24-5302, N24-5279, N24-5330	C24-5031-1
Supervisor and Input/Output Macros TNLs N24-5306, N24-5312, N24-5285, N24-5329	C24-5037-2
Basic Telecommunications Access Method TNL N30-5016	C30-5001-4
Utility Macros Specifications TNLs N24-5184, N24-5268, N24-5318	C24-5042-1
Vocabulary File Program for the 7772 Audio Response Unit	C27-6924-1
Utility Programs Specifications TNL N21-5063 (Note - SRL C24-3465-2 plus TNLs N21-5024, N21-5044, N21-5047, and N21-5063 may be used in lieu of SRL C24-3465-3)	C24-3465-3
Tape Sort/Merge Program Specifications (Note - C24-3438-1 and TNLs N21-5021, N24-5064, N24-5131, N21-5036, N21-5042 and N21-5050 or SRL C24-3438-2 plus TNLs N21-5036, N21-5042 and N21-5050 may be used in lieu of the SRL C24-3438-3)	C24-3438-3
Sort/Merge Program Specifications (Note - SRL C24-3444-1 plus TNLs N21-5035 and N21-5049 may be used in lieu of the SRL C24-3444-2)	C24-3444-2
COBOL DASD Macros (Note - C24-5039 and TNLs N24-5142, N24-5181 may be used in lieu of C24-5039-1)	C24-5039-1
Assembler Specifications TNLs N26-0536, and N26-0544 (Note - C24-3414-2 plus TNLs N24-5057, N24-5076, N24-5107, N26-0516, N26-0520, N26-0533, N26-0544, and N26-0536 or C24-3414-3 plus TNLs N26-0516, N26-0520, N26-0533, N26-0544 and N26-0536 may be used in lieu of C24-3414-4, and TNL N26-0536, N26-0544)	C24-3414-4
COBOL Programmers Guide TNLs N24-5264, and N28-0221	C24-5025-3
COBOL Language Specifications (Note - C24-3433-3 plus TNLs N24-5188, N28-0232 and N28-0237 may be used in lieu of C24-3438-4)	C24-3433-4
FORTRAN IV Programmers Guide TNLs N28-0218, and N28-0569 (Note - SRL C24-5038-0 plus TNL N21-5034 and N21-5053, N28-0218 and N28-0569 may be used in lieu of C24-5038-1 plus TNLs N28-0218 and N28-0569)	C24-5038-1
FORTRAN IV Language (Note - C24-5014 plus TNLs N21-5018, N24-5041 and N24-5069, or SRL C24-5014-1 may be used in lieu of SRL C28-6629)	C28-6629
Report Program Generator TNL N24-5195, N21-5058	C26-3570-4
Autotest Specifications	C24-5062
QTAM Message Control Program	C30-5004-1
Queued Telecommunications Access Method Message Processing Program Services TNLs N30-5015, and N30-5020	C30-5003-2
Basic PL/I Reference Manual	C28-8202
PL/I Programmers Guide TNL N33-9012	C24-9005-1
PL/I DASD Macros TNL N24-5301	C24-5059
On-Line Test Executive Program Specs and Operating Guide	C24-5066

Underlined items denote changes from previous release.

If only the publications or if additional copies of the publications are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

Documentation -- Program Material List ... Attachment I - Temporary Restrictions ... Attachment II - Special Instructions.

Machine Readable -- DOS/360 (without the Tele-processing or OLTEP components) is distributed on one 2400 foot reel of magnetic tape, either 9-track (800 bpi or 1600 bpi), or 7-track (800 cpi, Data Conversion feature required) or one 1316 Disk Pack. These reels of magnetic tapes are in 1316 Disk Pack restore form. The DOS/360 data are preceded by an initialized 2311 Utility Program and a Tape-to-Disk program.

The Tele-processing and OLTEP components are distributed on one 2400 foot reel of magnetic tape, either 9-track (800 bpi or 1600 bpi), or 7-track (800 cpi, Data Conversion feature required), or one 1316 Disk Pack.

Ordering Procedures

See DP Sales Activity section of the Branch Office Manual.

Magnetic Tapes (2400') may be forwarded to PID or ordered. The order card should accompany the tape or the tape order form; disk packs must be forwarded to PID with the program order card.

When ordering on magnetic tape, if the distribution medium is not specified on the back of the program order card, 9-track at 800 bpi will be forwarded.

New Users -- Program components may be selected from the following list. Each component for which program documentation and maintenance material is required must appear on the order form.

Supervisor (6K)	360N-SV-474 *
Supervisor (8K)	360N-SV-475 *
Supervisor (10K)	360N-SV-473 *
System Control and Basic IOCS	360N-CL-453 *
Direct Access Method	360N-IO-454
Consecutive Disk IOCS	360N-IO-455 *
Consecutive Tape IOCS	360N-IO-456 *
ISFMS	360N-IO-457 *
Consecutive Paper Tape IOCS	360N-IO-458
BTAM	360N-CQ-469 *
QTAM	360N-CQ-470 *
Compiler I/O Modules	360N-IO-476 *
MICR IOCS	360N-IO-477 **
Optical Character Reader	360N-IO-478 *
Autotest	360N-PT-459
Assembler	360N-AS-465 *
COBOL	360N-CB-452
COBOL DASD Macros	360N-CB-468
FORTRAN IV	360N-FO-451 *
Report Program Generator	360N-RG-460 *
Group 1 Utilities - Unit Recd/Disk	360N-UT-461
Group 2 Utilities - Tape	360N-UT-462
Group 3 Utilities - Data Cell	360N-UT-463
MPS Utility Macros	360N-UT-471
Vocabulary File Utility Program	360N-UT-472
Disk Sort/Merge	360N-SM-450
Tape Sort/Merge	360N-SM-400
PL/I	360N-PL-464
OLTEP	360N-DN-481 **

*Component changed from previous release.
**New Component.

DOS/360 is distributed as one pre-generated system with a 6K Supervisor ... or one pre-generated system with an 8K Supervisor ... or one pre-generated system with a 10K Supervisor.

The System Control and Basic IOCS component and one of the three Supervisor components are required. To order these components, specify on the IBM Program Order for System/360 Operating Systems (120-1411) -- System Control and Basic IOCS, 360N-CL-453 and Supervisor (6K), 360N-SV-474, or Supervisor (8K), 360N-SV-475, or Supervisor (10K), 360N-SV-473. Supervisor (8K), 360N-SV-475 assumes the users machine size to be at least 32K. If no supervisor is indicated on the order card, PID supplies the (6K), 360N-SV-474.

DOS/360 is available on two reels of magnetic tape or two disk packs.

The first volume contains all of the DOS/360 components listed above except the Tele-processing components (BTAM, QTAM, and the Vocabulary File Utility Program, including the Sample Program, VFU1 and OLTEP), which are contained in the second volume.

If the Tele-processing or OLTEP components are required, two volumes must be supplied to PID; if they are not required, only one volume need be supplied.

Current Users -- Current users will receive a prepunched Program Order Card and a letter announcing the availability of DOS/360 Release 14. The letter instructs them to order this release through the branch office. Current users must use the prepunched card to order either the Maintenance Package or the Replacement System for Release 14.

Orders for the Release 14 Maintenance Package should be accompanied by one 9-track magnetic tape or one 7-track magnetic tape (Data Conversion feature required). It is not available on Disk. Disk only users must order the Replacement System for Release 14.

Complete ordering instructions are provided in the letter to users.

The Maintenance Package will be available from PID for a period of 60 days following the announcement of availability of System Release 14.

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IBM World Trade Data Processing

Program Announcement

IBM 2250 MODEL 4/1130 SATELLITE OPERATION WITH OPERATING SYSTEM/360

Programming support for "Graphics" ... two new programming packages will be available February 15, 1969:

[1] FORTRAN Subroutines for Data Transmission between a System/360 and an 1130 System, and

[2] The Satellite Graphic Job Processor (SGJP).

This announcement complements IBM's support of the 2250 Model 4/1130 standalone graphic data processing system, and further extends IBM's support for graphic data processing with OS/360. Sales representatives should review this programming development with all potential graphic users.

These packages are designed for on-line graphic processing from a remote 1130 Computer with a 2250 Display Unit. They provide:

a means of transmitting data and control information between two programs, one in the 1130, and one in the S/360, and

a convenient means of initiating a job in each computer so that the programs can execute at the same time.

With the facilities provided, the computing power and storage capacity of OS/360 is available to the application when needed. At the same time the user has the operating convenience of an 1130 computer at a remote location.

The Satellite Graphic Job Processor is an extension of the Graphic Job Processor (GJP, see P67-115) and provides similar facilities. It enables an application user, such as an engineer, to request the initiation of his job from the 2250 on his 1130 computer. He can initiate an OS/360 job to run in conjunction with a related 1130 program. Once the programs are initiated, they can utilize the FORTRAN Data Transmission Subroutines, to transmit control information and data between a program in each processor. In addition, the user can utilize SGJP to specify and queue OS/360 jobs for normal batch processing under MFT-II or MVT from the 2250 Display Unit.

For further details, see the sales manual text and list of reference material printed on the reverse side.

John Fahey
Director of DP Marketing

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Published by DP Sales Publishing Services, WTHQ

Cancels: Statement of Intent P67-94

Release Date: November 15, 1967

Distribution: DP managers, salesmen, and systems engineers
FE managers

FORTRAN Subroutines for Data Transmission Between a System/360 and an 1130 System: These routines provide for data transmission between a S/360 and a remote 1130 Computing System over established communication lines. The user, by means of FORTRAN CALL statements, can transmit control information and data between two programs, one in the 1130, and one in the S/360. These programs will normally be started in each processor by the Satellite Graphic Job Processor but can be started by any procedure.

Use of the transmission subroutines makes it possible for an 1130 program to use the high speed computational capability and large storage capacity of OS/360, thus increasing the flexibility and efficiency of the 1130 application.

The transmission subroutines use OS/360 BTAM facilities and a specialized synchronous communication adapter subroutine (SCA) under the 1130 Monitor System, Version 2, to accomplish the actual data transmission. However, the FORTRAN programmer will be able to program the data communication with no knowledge of binary synchronous communications.

The transmission subroutines enable the OS/360 FORTRAN programmer to:

- Initialize the communications lines.
- Read and write data via the communications lines.
- Test the status of the previous request for a read or write operation.
- Activate a user-written asynchronous routine in the 1130.
- Terminate the 1130 main-line program.
- Logically terminate the communications hookup.

Similar functions are performed by transmission subroutines available to the 1130 FORTRAN programmer, except that the 1130 does not have the facility to terminate an OS/360 program.

Conversion subroutines are provided to resolve FORTRAN differences between the internal data structure of the System/360 and the 1130. These subroutines (available to the OS/360 program only) perform the following conversions:

1130 integer format to OS/360 integer format, and vice versa.
1130 standard-precision real format to OS/360 double-precision real format, and vice versa.
1130 extended-precision real format to OS/360 double-precision real format, and vice versa.

In addition, the conversion subroutines can be used to reverse the main storage position of elements when arrays containing alphameric data are transmitted from one system to the other. This preserves the readability of alphameric messages despite differences in the arrangement of array elements in the two systems.

System Requirements:

- Operating System/360 MFT-II or MVT. While PCP can be used it is not a practical environment because it does not support multitasking or the Satellite Graphic Job Processor.
- A 2701 Data Adapter Unit or 2703 Transmission Control Unit capable of supporting Binary Synchronous Communications in half-duplex, point-to-point environment. The 2701 or 2703 must be designated for use with EBCDIC. Users of the Dual Code Feature on the 2701 must specify EBCDIC as Code A. Users of the Dual Communications Interface on the 2701 must specify the 1130 system line as Interface A.
- An IBM 1130 Computing System operating under the 1130 Monitor System, Version 2 with at least 8K of core storage and the Synchronous Communications Adapter.

Users who want to employ switched network data sets will be required to perform their own manual or program-controlled procedures to establish the point-to-point environment necessary for the data transmission subroutines.

Reference Material:

The availability of two SRLs will be announced in a future Publication Release Letter. "IBM System/360 Operating System and 1130 Disk Monitor System: FORTRAN Subroutines for Data Transmission Between a System/360 and an 1130 System", describes preliminary specifications for the subroutines. "IBM System/360 Operating System and 1130 Disk Monitor System: User's Guide for Job Control from an IBM 2250 Display Unit Attached to an 1130 Subsystem", describes use of the 2250 for OS/360 and 1130 job control.

Satellite Graphic Job Processor: The Satellite Graphic Job Processor (SGJP) permits OS/360 job definition and initiation from a 2250 Display Unit attached to a remote 1130 Computing System. SGJP enables the user who is unfamiliar with either the 1130 or OS/360 to define an OS/360 job to run in conjunction with a related 1130 program. OS/360 system messages are routed by SGJP to the 1130 for optional printing. The programming to transmit control information and data between the programs in each processor is not provided by SGJP and must be part of the application. FORTRAN Subroutines for Data Transmission between a System/360 and an 1130 system will normally be used for this purpose.

SGJP can also be used to specify and queue OS/360 jobs for normal batch processing under MFT-II or MVT from the 2250. Output from these jobs is produced as normal OS/360 output, and not routed to the originating 1130.

SGJP is an extension of the OS/360 Graphic Job Processor (GJP).

Up to 14 remote 1130/2250 systems can be attached to a System/360 for SGJP operations. If batch jobs are included in OS/360 and/or GJP is being used, the number of batch partitions or regions, plus the number of local 2250's (for GJP operations) plus the number of 1130/2250 systems (for SGJP operations) must not exceed 14.

SGJP facilitates the initiation of jobs by requesting OS/360 and the related 1130 job control information from a user through a series of displays. The user responds to the displays by entering requested information or by selecting appropriate options with the light pen or the alphameric keyboard. Job control information for an OS/360 job is transmitted to the OS/360, converted to Job Control Language, and used to initiate the desired job in a region or partition associated with the 1130/2250 subsystem. Information about an 1130 program is used to initiate that program in the 1130.

SGJP enables the remote 1130/2250 user to:

- Identify himself to the OS/360 (LOG ON)
- Define and start execution of an OS/360 procedure as a job (BEGIN PROCEDURE)
- Define an OS/360 program or cataloged procedure to be executed as a job step (SPECIFY JOB STEP)
- Define data sets to be used by the OS/360 program (DESCRIBE DATA)
- Define an 1130 program to run in conjunction with the OS/360 program (SPECIFY 1130 PROGRAM)
- Start execution of the specified OS/360 and 1130 programs (BEGIN JOB)
- Communicate with OS/360 operator (WRITE MESSAGE)
- Enter 80-character data records to be used by the OS/360 program (ENTER DATA)
- Delete a job he is currently defining, but has not yet initiated (CANCEL JOB)
- Re-examine previously completed job control operations (RECALL)
- Conclude his job definition and prepare the 2250 for the next user (LOG OFF)

System Requirements:

- An IBM 1130 Computing System including:
  The 1130 Monitor System, Version 2 with at least 16K of core storage and the Synchronous Communications Adapter.

  A 1132 Printer or 1403 Printer (If a Printed Record of Operations Performed is desired).

  A 1442 Card Read/Punch, or a 2501 Card Reader and a 1442 Card Punch.
- A 2250 Display Unit Model 4 equipped with the light pen and alphameric keyboard.
- Operating System/360 MFT-II or MVT
- A 2701 Data Adapter Unit or 2703 Transmission Control Unit capable of supporting Binary Synchronous Communications in half-duplex, point-to-point environment. The 2701 or 2703 must be designated for use with EBCDIC. Users of the Dual Control Feature on the 2701 must specify EBCDIC as Code A. Users of the Dual Communications Interface on the 2701 must specify the 1130/2250 subsystem line as Interface A.

Users who desire to employ switched network data sets will be required to perform their own manual or program controlled procedures to establish the point-to-point environment necessary for the data transmission.

Note to World Trade Readers. This is a reprint of an IBM P-Letter and was mailed concurrently to USA and WT offices. The following changes should be applied to the text for WT use. [1] Programs announced as available have been shipped to WT Program Libraries. Programs may be ordered as indicated on pages 9013-9017, PGM. Sec., WT DP Sales Manual. [2] Advance copies of form numbered publications mentioned above have been shipped or will be, when available. Availability will be announced in the Weekly Publications Letter. [3] When a new version of a program is announced current users must order it; they will not receive it automatically. [4] If DTR Distribution is indicated above, program distribution media may differ based on local conditions, [5] References made to PID means the appropriate WT Program Library. [6] Any reference made to DPD Depts. (or Regions) as sources of information means the comparable WT Dept. (or corresponding organizational level). [7] Communications facilities may be required which are not offered in all WT countries. In case of doubt as to availability of suitable facilities, consult the country TP Coordinator. [8] References made to Engineering Changes required should be verified with the local CE Office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

IBM World Trade Data Processing

67-123

Program Announcement

CONTENTS

OS/360 ...
FORTRAN H Version II schedule
Data Management schedule

Published by DP Sales Publishing Services, WTHQ

OS/360 FORTRAN H VERSION II

Improved availability ... FORTRAN H Version II will now be available on February 15, 1968 instead of April 30, 1968

Customers affected by this change should be notified.

See P67-86 and P67-109 for additional information.

OS/360 DATA MANAGEMENT SCHEDULE

Letter P67-41 (Item B) stated that an availability date would be announced for:

Error Statistics by Volume
End of Volume Checkpoint Exit
Label Exits for User Modifications

Development progress does not yet permit announcement of a delivery schedule. The status of these programs remains as stated in the sales manual, page P9 (October 1967 Revision), "schedule to be announced."

John Fahey
Director of DP Marketing

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS".

FOR IBM INTERNAL USE ONLY

Attachments [5]: P 360S.9, P 360S.10, P 360T.1, P 360T.3 and P 360T.5
Release Date: November 16, 1967
Distribution: All Areas

Note to World Trade Readers

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[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

[2] Advance copies of the form numbered publications mentioned in the above either have been shipped (with additional copies available from the IBM Distribution Center, Mechanicsburg, Pennsylvania) or will be shipped when available. In the case of the later, availability will be announced in the Weekly DP Marketing Publications Release Letter.

[3] When a new version of a program is announced current users must order it; they will not receive it automatically nor will they necessarily receive a prepunched request card in their Area.

[4] If DTR distribution is indicated in the above, program distribution media may be different in your area based on local conditions.

[5] All references made to the Program Information Department (PID) should be understood to mean the appropriate WT Program Library.

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[8] References made to Engineering Change requirements should be verified with the local CE office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

CONTENTS

S/360 Model 44 Simulator of the 1620, 360C-SI-755 ... available (A)

1287 Optical Reader Programming Support ... availability changed to January 31, 1968 (B)

Published by DP Sales Publishing Services, WTHQ

SYSTEM/360 MODEL 44 1620 SIMULATOR PROGRAM [A]

System/360 Model 44 Simulator of the 1620 is now available (360C-SI-755).

The performance ratios originally announced and presently in the sales manual have been changed. The paragraph below clarifies the meaning of the performance ratios and adjusts them to measured results.

Performance: Performance under simulation is represented by the performance ratio, defined as the ratio of the total execution time on the 1620 to the total execution time on the System/360 Model 44. A ratio greater than 1.0 means that simulation on System/360 Model 44 is faster than execution on the original system. The performance ratio for a given program depends heavily on the relative amounts of CPU and I/O activity, the CPU instruction mix, and the I/O devices used. CPU bound jobs tend to run with a lower ratio than I/O bound jobs. Observations on a representative set of jobs indicated the following ranges of performance:

1620 Configuration	System/360 Model 44
Model 1, Paper Tape	0.4 - 1.8
Model 1, Cards	0.4 - 1.2
Model 2, Paper Tape	0.1 - 1.8
Model 2, Cards	0.1 - 1.2

See the sales manual text on page P 360C.10 for further information on the program.

Reference Material: System/360 Principles of Operation, A22-6810 ... IBM System/360 Model 44 Functional Characteristics, A22-6875 ... 1620 Central Processing Unit Model 1, A26-5706 ... 1620 Central Processing Unit Model 2, A26-5781.

Basic Program Material

SRL Publication -- IBM System/360 Conversion Aids:
The 1620 Simulator for IBM System/360 Model 44, C28-6816.

Documentation -- Program Material List

Machine Readable -- The 1620 Simulator System Tape (which includes all simulator functions in symbolic form, the supporting functions in assembled form, plus a sample program deck) is available on one 9-track tape (800 or 1600 bpi) or on one 7-track tape (800 cpi) Data Conversion Feature required.

Ordering Procedure: See the DP Sales Activity Section of the Branch Office Manual.

If only the publications or if additional copies of the publications are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

Magnetic Tape (2400') may be forwarded to PID or ordered. The order card should accompany the tape or the tape order form.

If the distribution medium is not indicated on the back of the Program Order Card, 9-track at 800 bpi will be forwarded.

1287 OPTICAL READER PROGRAMMING SUPPORT [B]

Availability of DOS/360, TOS/360, BOS/360, and BPS/360 support for the 1287 Optical Reader has been changed from December 18 to January 31, 1968.

Customers affected should be notified.

John Fahey
Director of DP Marketing

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS"

FOR IBM INTERNAL USE ONLY

Release Date: November 16, 1967

Distribution: All Areas

Note to World Trade Readers

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[7] Communications facilities or services may be required which are not offered in all WT countries. In case of any doubt as to the availability of suitable communications facilities, the country Teleprocessing Coordinator should be consulted.

[8] References made to Engineering Change requirements should be verified with the local CE office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

IBM World Trade Data Processing

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Program Announcements

CONTENTS

DOS/360 RPG ... additional improvements to be available May 15, 1968. [A]

BOS/360 RPG ... additional functions to be available June 28, 1968. [B]

Published by DP Sales Publishing Services, WTHQ

DOS/360 RPG ISAM Load and Add and 2321 Support [A]

Significant improvements to DOS/360 Report Program Generator (RPG) will be available May 15, 1968. These improvements provide load and add functions for ISAM files and I/O device support for the IBM 2321.

Load and Add for ISAM Files

The ISAM Load and Add is an important new step in the growth of DOS/360 RPG. It means more applications can be executed exclusively within the language. It forges another strong link in the upward growth from Model 20 RPG by the elimination of a critical incompatibility.

In addition to currently available functions allowing record retrieval and updating for ISAM files, the user will be able to:

- Load a new file.
- Add records to an existing file.
- Retrieve records from a file and add records to the same file.
- Retrieve records from a file, update, and add records to the same file.
- Process key fields for both input and output records.

2321 Support

The 2311, 2314, and now the 2321 may be specified in DOS/360 RPG. The 2311 ISAM capabilities will be possible with the 2321, including the new functions described above. Master and cylinder indices may be on the 2311, 2314, or the 2321 at the users option.

Minimum System Requirements

Minimum system requirements are the same as those currently specified for DOS/360 RPG, except for the 2321 when specified as an I/O device. While many of the new ISAM functions can be performed with a 16K system, combinations of these functions may require additional storage.

Publications

Planning information for these RPG improvements is available in TNL N21-5082 to IBM System/360 Disk and Tape Operations Systems Report Program Generator Specifications, C26-3570-4.

BOS/360 RPG Load and Add [B]

Significant improvements to BOS/360 Report Program Generator (RPG) Index Sequential Access Method (ISAM) functions will be available June 28, 1968.

The ISAM Load and Add is an important new step in the growth of BOS/360 RPG. It means more applications can be executed exclusively within the language. It forges another strong link in the upward growth from Model 20 RPG by the elimination of a critical incompatibility.

In addition to currently available functions allowing record retrieval and updating for ISAM files, the user will be able to:

- Load a new file.
- Add records to an existing file.
- Retrieve records from a file and add records to the same file.
- Retrieve records from a file, update, and add records to the same file.
- Process key fields for both input and output records.

Minimum System Requirements

Minimum system requirements are the same as those currently specified for BOS/360 RPG, with these exceptions:

- For program compilation in an 8K system, the BOS supervisor must not exceed 4K.
- While some of the new functions listed above can be performed with an 8K system, in general, combinations of these functions will require additional storage, especially for large record sizes.

Publications

Planning information for these new RPG functions is available in TNL N21-5064 to IBM System/360 Basic Operating System Report Program Generator Specifications, C24-3387-3 (or -4).

John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS"

Release Date: November 17, 1967

Distribution: All Areas

Note to World Trade Readers

This letter is a reprint of an IBM Programming Announcement and was mailed concurrently to USA and WT offices. The following changes, when appropriate, should be applied to the text for WT use.

[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

[2] Advance copies of the form numbered publications mentioned in the above either have been shipped (with additional copies available from the IBM Distribution Center, Mechanicsburg, Pennsylvania) or will be shipped when available. In the case of the later, availability will be announced in the Weekly DP Marketing Publications Release Letter.

[3] When a new version of a program is announced current users must order it; they will not receive it automatically nor will they necessarily receive a prepunched request card in their Area.

[4] If DTR distribution is indicated in the above, program distribution media may be different in your area based on local conditions.

[5] All references made to the Program Information Department [PID] should be understood to mean the appropriate WT Program Library.

[6] Any reference made to DPD Departments (or Regions) as sources of information or for manuals etc. should be understood to mean the comparable WT Department (or corresponding organizational level).

[7] Communications facilities or services may be required which are not offered in all WT countries. In case of any doubt as to the availability of suitable communications facilities, the country Teleprocessing Coordinator should be consulted.

[8] References made to Engineering Change requirements should be verified with the local CE office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

System/360 Model 20

Disk Programming System

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System/360 Model 20 Disk Programming System

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Input/Output and Basic Monitor Macro Definitions	[F]

Published by DP Sales Publishing Services, WTHQ

System/360 Model 20 DPS can now be ordered. First shipments will begin this week.

It supports the 2311 Disk Storage Drives, Model 11 and 12, attached to a 2020 Central Processing Unit with a storage capacity of at least 12,288 bytes.

Minimum system requirements for the programs outlined below apply to program generation and execution. To handle the program distribution, the following additional requirement applies: one card punching device (2520 Model A1, A2 or A3, 2560 Model A1 or 1442 Model 5).

Users of Model 20 configurations that do not satisfy this requirement must have access to an adequately equipped Model 20 system if they desire to punch out contents of the IBM supplied program distribution.

EC-Level Requirements

For proper use of the entire Model 20 DPS program at Version 1 Modification Level 0, the following minimum Engineering Change Level is required.

2020 Central Processing Unit (microprogram)	12 103
Storage Control (microprogram)	12 448
I/O Channel (microprogram)	12 107
2311 Disk Storage Drive Model 11 or 12	411 283
2415 Magnetic Tape Unit Model 1 - 3	730 339
Model 4 - 6	730 346

CONTROL AND SERVICE [A]

The control and service programs are used to build, maintain, and service disk-resident systems that facilitate the assembly, generation, and execution of programs. They are:

Card-Resident Control Programs	360W-CL-170
Disk-Resident Control Programs	360W-CL-171
Load System Disk Program	360W-SL-172
Library Allocation Organization Program	360W-SL-173
Physical and Logical Unit Tables Service Program	360W-SL-174
Core Image Maintenance Program	360W-SL-175
Macro Maintenance Program	360W-SL-176
Library Service Programs	360W-SL-177
Distribution Package Retrieval Program	360W-SL-178
Linkage Editor Program	360W-SL-179

Moreover, card-resident control programs will allow for stacked job processing with card-resident programs.

Use: The control and service programs are contained in the DPS Disk Pack except:

- the card-resident control programs;
- some cards initializing the loading of the DPS Disk Pack;
- the Distribution Package Retrieval Program, which is contained in the distribution tape for users with 2415 Magnetic Tape Units attached to their system;
- one bootstrap card for initializing the loading of the distribution tape.

Features: Each of the two sets of control programs (for both card-resident and disk-resident systems) contains three programs:

Initial Program Loader
Basic Monitor program
Job Control program

The control programs provide the user with the advantages of:

- reduced card handling,
- automatic job-to-job transition,
- selective retrieval of programs from the system disk pack,
- ability to expand core storage through program overlays,
- ease of operation, and
- tape and disk drive assignment at object time.

The service programs consist of the

Load System Disk
Linkage Editor
Library Allocation Organization
Physical and Logical Unit Tables Service
Core-Image Maintenance
Macro Maintenance
Library Service
Distribution Package Retrieval

The principal functions of these programs are:

- to build a disk-resident system from IBM-supplied and/or user-written programs (Load System Disk program);
- to link separately assembled program sections and/or subroutines into a single program, and to relocate programs so that they can be executed without new assembly (Linkage Editor program);
- to redefine the limits of the core-image and/or macro library and directory, and the relocatable area. Reallocation permits an increase or decrease of the size of these areas, or allows the complete elimination of an area (Library Allocation Organization program);
- to display and/or change the permanent I/O device assignment, or to change the contents of the configuration byte, which indicates the core-storage capacity (Physical and Logical Unit Tables Service program);
- To add or delete IBM-supplied and/or user-written programs in the program library of a disk-resident system (Core-Image Maintenance program);
- to add or delete IBM-supplied and/or user-written macro definitions in the macro library of a disk-resident system (Macro Maintenance program);
- to print or punch or write on tape or disk the contents of the core-image and of the macro library or to print their directories (Library Service programs). The card, tape, or disk output from the core-image library can be used as input to the Core-Image Maintenance program. The card, tape and disk output from the Macro Library can be used as input to the Macro Maintenance program. Moreover, card and tape output from the core-image library can be used as input to the Load System Disk program. Programs punched from the core-image library can be executed under the supervision of the card-resident control program.
- to copy the IBM-supplied basic program material, especially the contents of a running disk system, from tape to disk and to punch the few cards used for initial program loading of the DPS Disk Pack from the distribution tape. (Distribution Package Retrieval program).

Performance Data: See SRL IBM/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

Release Date: November 21, 1967

Distribution: All Areas

P67-126

Minimum System Requirements:

A 2020 Central Processing Unit, Model BC2 ... One 2311 Disk Storage Drive, Model 11 or 12 ... One card reading device (2501 Model A1 or A2 or 2520 Model A1 or 2560 Model A1) ... One printer (1403 Model 2,7, or N1 or 2203 Model A1) ...
for printing diagnostic messages,
listing of job-control statements,
listing contents of directories, etc.

For the Library Service programs and the Linkage Editor program -- One card-punching device (2520 Model A1, A2 or A3 or 2560 Model A1 or 1442 Model 5) if output is on cards.

For the Distribution Package Retrieval program -- A 2415 Magnetic Tape Unit Model 1-6 with either at least one 9-track read-write head or, if all heads are 7-track, the Data Conversion Feature.

Additional Hardware Supported: The Load System Disk, Core-Image Maintenance, Macro Maintenance, Library Service, and Linkage Editor programs accept input from and/or allow output on a 2415 Magnetic Tape Unit Model 1-6 with either at least one 9-track read-write head or, if all heads are 7-track, the Data Conversion Feature.

The Library Service and Linkage Editor programs allow output on the Core-Image Maintenance and Macro Maintenance programs and accept input from a second 2311 Disk Storage Drive Model 11 or 12.

Reference: SRL

IBM System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

REPORT PROGRAM GENERATOR, 360W-RG-180 [B]

Facilitates the preparation of programs to read input data from punched cards, tape, and disk; to process and update records according to the user's specifications; to write output records on tape and disk; to punch cards, and to prepare printed reports.

Use: The Model 20 DPS RPG is disk-resident and executed under supervision of the control programs for disk-resident systems. Specifications describing the input, the required calculations, the desired output, the files and their extensions, are furnished to the RPG in punched card decks. During the compilation run, the object program is placed in core storage to provide a compile-and-go capability. The object program can also be punched into cards or placed on disk for future use.

Features: The DPS RPG can process a total of 29 files (input, output, update, combined, and table files) in any combination. The maximum number of files that can be matched with each other is nine. Up to nine chained files and one record-address file are permitted.

The following types of tape and disk records may be specified:

Fixed-length, blocked or unblocked tape records.
Variable-length, blocked or unblocked tape records.
Fixed-length, blocked or unblocked disk records.

The DPS RPG uses two types of disk-file organization: sequential and indexed-sequential. The methods of file processing are (1) sequential processing of sequentially organized files, (2) sequential processing of indexed-sequentially organized files, and (3) random processing of indexed-sequentially organized files. Creation (loading) of new indexed-sequential files is possible. Reorganization can be done by reloading. New records can be added. Records to be deleted must be identified by a flag and can be omitted when the file is reorganized. The DPS RPG also provides for the random processing of sequential disk files by means of ADDROUT files that have been created by the Model 20 DPS Disk Sort/Merge program.

Disk labels are mandatory. Disk and tape label checking and creation conforms to System/360 standards. Non-standard tape labels are bypassed on input files. Non-standard labels are not permitted on tape out-put files. An exit is provided for processing of additional user tape labels.

Performance Data: See SRL IBM System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

Restriction: Cards punched in column binary format cannot be processed.

Minimum System Requirements:

Program Generation -- A 2020 Central Processing Unit, Model BC2 ... One 2311 Disk Storage Drive Model 11 or 12 ... One card reading device (2501 Model A1 or A2 or 2520 Model A1 or 2560 Model A1) ... One printer 2203 Model A1 (52 character type bar, at least), or 1403 Model 2,7 or N1 (48 character set chain, at least) if printing of diagnostic messages is specified ... One card punching device (2520 Model A1, A2 or A3 or 2560 Model A1, or 1442 Model 5) if punching of the object deck during generation is specified.

Additional Hardware Supported:

Program Compilation -- Use of a 2020 Central Processing Unit Model D2 permits faster compilation ... A second 2311 Disk Storage Drive Model 11 or 12 used for storing the work area also increases the compilation speed.

Object Program Execution: Can be specified for systems with a 2020 Central Processing Unit, Model BC1, D1, BC2, or D2 with any of the following I/O-units attached -- A 2501 Model A1 or A2 Card Reader ... Either a 2520 Model A1, A2 or A3 Card-(Read-) Punch or a 2560 Model A1 MFCM ... A 1442 Model 5 Punch ... A 2415 Magnetic Tape Unit, Model 1-6 ... One or two 2311 Model 11 or 12 Disk Storage Drives ... Either a 1403 Model 2, 7 or N1 or a 2203 Model A1 Printer.

All optional features of the listed I/O devices are also supported.

Reference: SRLs

System/360 Model 20, Disk and Tape Programming Systems, Report Program Generator, C24-9001-3 ... System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0 ... System/360 Model 20, Sterling Currency Processing Routines, C26-3605-1, amended by TNL N24-9001.

ASSEMBLER, 360W-AS-181 [C]

Provides a powerful language for machine-oriented programming. It also permits the user to write and use his own macro definitions in addition to the I/O and Basic Monitor macro definitions supplied by IBM.

Use: The Model 20 DPS Assembler program is disk-resident and is executed under supervision of the control programs for disk-resident systems. Source programs written in either Model 20 Assembler or Model 20 Basic Assembler language and punched into cards or written onto tape, are processed by the Assembler program to produce machine-language programs. Output is punched into cards or written onto tape in relocatable or absolute format. If a relocatable area exists in the user's disk-resident system, the output is also placed in this area and may be used as input for the Core-Image Maintenance program, the Linkage Editor program or for the assemble and execute function. Control cards are used to supply the information required for Assembler options.

Features: The language is a major extension of the Model 20 Basic Assembler language and is fully compatible with the Model 20 TPS Assembler language. It permits symbols of up to 8 characters, literals, and various auxiliary functions. A macro language is provided for the writing of macro definitions. User-written macro definitions, as well as IBM-supplied macro definitions, are retrieved from the macro-library section of the user's disk-resident system during the generation phase.

Diagnostics are performed on all source statements. An optional listing identifies coding errors by means of error messages. The Assembler language and program provide facilities for partitioning an assembly into one or more control sections.

The linking facilities of the Assembler language allow symbols to be defined in one assembly and referred to in another, thus affecting a link between separately assembled programs.

A cross-reference listing can be produced instead of the symbol-table listing. The cross-reference listing contains all symbols used in the program and the numbers of the statements in which they were used.

Performance Data: See SRL System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

Minimum System Requirements:

For program assembly -- A 2020 Central Processing Unit Model BC2 ... One 2311 Disk Storage Drive Model 11 or 12 ... One card reading device (2501 Model A1 or A2 or 2520 Model A1 or 2560 Model A1) ... One printer (1403 Model 2,7 or N1 with a 48 character chain set at least) or (2203 Model A1 with a 52 character type bar, at least).

If the input is from tape and/or the output object program is to be written onto tape -- A 2415 Magnetic Tape Unit Model 1 or 4. If the object program is to be punched into cards -- A card punching device (2520 Model A1, A2 or A3 or 2560 Model A1 or 1442 Model 5).

For object program execution: The requirements depend on the user's programs. The Assembler language supports all available machine features and all card, tape, and disk I/O devices.

Additional Hardware Supported: The use of a 2020 Central Processing Unit Model D2 will allow for a faster assembly.

A second 2311 Disk Storage Drive Model 11 or 12 used for storing a second work area will also increase the speed of assembly.

Reference: SRLs

System/360 Model 20, Disk and Tape Programming Systems, Assembler Language, C24-9002-3 ... System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

DISK SORT/MERGE, 360W-SM-182 [D]

Allows the sorting of sequentially organized files into ascending and/or descending sequence and to merge presequenced sequential files.

Use: The DPS Disk Sort/Merge program is executed under the supervision of the control programs for card-resident or disk-resident systems. The required mnemonic control information (file parameters, program options) is furnished to the program in punched cards.

Features: The DPS Disk Sort/Merge program

- sorts blocked or unblocked, fixed-length records.
- sorts records that have control fields in packed or unpacked decimal, fixed-point binary, or character format; (for one sort or merge run, all control fields must be in the same format.)
- sorts or merges in ascending or descending order on each individual control field.
- sorts or merges according to control data contained in up to twelve fields of each record; (the maximum total length of all binary, alphameric, and fixed-point control fields is 256 bytes.)
- merges two to four pre-sequenced files.
- reblocks and sequence-checks a single presequenced file while copying it.
- provides checkpoint and restart facilities for sort operations;
- provides exit points for linkage with user-prepared routines for additional record processing in the input and the output phases, e.g., deletion, alteration, translation, etc.
- checks and/or creates disk labels conforming to System/360 standards.
- provides an option for automatic deletion of blank records from disk-file input.
- may take advantage of natural sequences within a file.
- provides for input from cards, or disk drives.
- permits input from cards in combination with disk.
- allows for multi-pack input and output.
- provides for output on card punch or disk drives.
- permits card output in parallel with disk.
- provides for write-disk-check option in the last pass, and
- contains an ADDROUT option which allows the user to produce a record-address file that can be used in programs written in the Model 20 RPG language.

Performance Data: See SRLs IBM System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

Minimum System Requirements:

A 2020 Central Processing Unit Model BC2 ... A card reading device (2501 Model A1 or A2 or 2560 Model A1 or 2520 Model A1) ... A printer 1403 Model 2,7 or N1 with 48 character chain, or 2203 Model A1 with 52 character type bar ... One 2311 Disk Storage Drive, Model 11 or 12.

Additional Hardware Supported: 2020 Central Processing Unit, Model D2 ... A second 2311 Disk Storage Drive, Model 11 or 12 ... A card punching device (2520 Model A1, A2 or A3 or 2560 Model A1 or 1442 Model 5).

Reference: SRLs

System/360 Model 20, Disk Programming System, Disk Sort/Merge Program, C26-3806-1 ... System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

DISK UTILITY [E]

Initialize Disk	360W-UT-183
Alternate Track Assignment	360W-UT-184
Clear Disk	360W-UT-185
Disk-to-Disk	360W-UT-186
Disk-to-Tape	360W-UT-187
Tape-to-Disk	360W-UT-188
Disk-to-Card	360W-UT-189
Card-to-Disk	360W-UT-190
Disk-to-Printer	360W-UT-191

By providing generalized routines, the disk utility programs reduce the need for repetitive programming of certain operations that are performed frequently. The general disk utility programs

Initialize Disk
Alternate Track Assignment
Clear Disk

prepare a disk file for proper use. The file-to-file utility programs

Disk-to-Disk
Disk-to-Tape
Tape-to-Disk
Disk-to-Card
Card-to-Disk
Disk-to-Printer

assist the user in the day-to-day operations of his installation by providing for the transfer of sequentially organized data from one medium to another.

Use: The disk utility programs are executed under supervision of the DPS programs for card-resident or disk-resident systems.

A Utility modifier card allows the user to specify the blocking factor, record length, etc. for the input and output file. Optional field-selection cards can be used to furnish information to the program for the transfer of fields from an input record to the same or a different relative position in an output record, and for simultaneously editing the data to a different format.

Features:

The Initialize Disk program

- checks the expiration date of any files in the pack.
- performs surface analysis and assigns alternate tracks for defective tracks.
- writes count fields.
- assigns an extent for the volume table of contents.
- records the label of the volume table of contents.

The program can also be used to list the volume table of contents.

The Alternate Track Assignment Utility program

- assigns an alternate track for a specified defective track.
- transfers the data from the defective track to the alternate track.
- flags the defective track.

The Clear Disk Utility program clears a full disk pack or designated portions (minimum one track) of a disk pack to specified characters.

The File-to-File Utility programs provide for the transfer of data from an input medium to an output medium with the following options:

copy, reblock, field select, and reblock and field select.

Multi-reel and multi-pack input and output is permitted. An option is provided to copy the contents of a disk pack including all volume and file labels to a tape or a second disk pack or to punch it into cards. Printer output can be in a byte-for-byte representation of the information in core storage (display) or in an audited listing of the information in core storage (list). Sequence numbering of output cards and sequence checking for input cards are available. Disk labels are mandatory. Disk and tape label checking and creation conforms to System/360 standards. Non-standard tape labels are bypassed on input files. Non-standard tape labels are not permitted on output files. Exits are provided in the Tape-to-Tape programs for processing of additional user tape labels and in the Disk-to-Card, Card-to-Disk, and Disk-to-Printer programs for use of Sterling currence conversion routines.

Performance Data: See SRL IBM System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

Minimum System Requirements:

A 2020 Central Processing Unit Model BC2 ... A 2311 Disk Storage Drive, Model 11 or 12 ... A card reading device (2501 Model A1 or A2 ... 2520 Model A1 or ... 2560 Model A1).

For the Initialize Disk, the Alternate Track Assignment, and the Disk-to-Printer Utility programs, as well as for other programs if the error and diagnostic messages are to be listed;

A printer (2203 Model A1 or
1403 Model 2, 7 or N1).

For the Disk-to-Card Utility program:

A card-punch (2520 Model A1, A2 or A3 or
2560 Model A1
1442 Model 5).

For the Disk-to-Tape and Tape-to-Disk Utility programs:

A 2415 Magnetic Tape Unit, Model 1 - 6

Additional Hardware Supported: Use of the 2020 Central Processing Unit, Model D2 (16 384 bytes), allows for the processing of data with a higher blocking factor and higher record length.

A second 2311 Disk Storage Drive Model 11 or 12 will allow for copying a file from one disk pack to a second one by means of the Disk-to-Disk Utility program.

Reference: SRL

System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

INPUT/OUTPUT AND BASIC MONITOR MACRO DEFINITIONS, 360W-IO-192 (F)

The input/output macro definitions relieve the user of programming the functions required to handle input/output operations, machine interrupts, and overlap processing for card, printer, magnetic tape, and disk storage devices.

The Basic Monitor macro definitions allow the programmer to request services of the Basic Monitor program.

Use: This program consists of a set of macro definitions to be included in the macro library of the user's disk-resident system. From these definitions, the Assembler program generates specialized routines and/or linkages to be included in the user's programs. These routines can be used only in connection with the Basic Monitor program.

Features: In addition to the functions of the TPS input/output macro definitions, the DPS input/output macro definitions have the following functions:

- Writing, reading, and transferring blocked or unblocked fixed-length disk records.
- Disk I/O error checking and recovery procedures.
- Organizing and maintaining sequential, indexed-sequential, and random-access disk files.
- Sequential-access processing, which provides for serial processing of cards, printer, tape and disk records.
- Random-access processing, which provides for random-access processing of disk records.
- Indexed-sequential processing, which provides for both serial and random-access processing of disk records.

Performance Data: See SRL IBM System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

Minimum System Requirements:

The minimum requirement for assembly of programs containing I/O and Basic Monitor macro instructions is the configuration required by the DPS Assembler program.

The minimum configuration for execution of such programs depends on processing requirements. In particular, the following devices are required -- A 2020 Central Processing Unit, Model BC2 ... A card reader (2501 Model A1 or A2 or 2520 Model A1, or 2560 Model A1) for initial loading of the user's disk-resident system.

Additional Hardware Supported: The I/O and Basic Monitor macro definitions support 2020 Central Processing Units, Model BC2 or D2 with any of the following I/O units attached:

A 2501 Card Reader, Model A1 or A2.

Either

a 2520 Card-(Read)-Punch, Model A1, A2 or A3,

or

a 2560 MFCM, Model A1... A 1442 Card Punch, Model 5 ... A 2415 Magnetic Tape Unit, Model 1-6 ... One or two 2311 Disk Storage Drives, Model 11 or 12.

Either

a 1403 Printer, Model 2, 7 or N1,

or

a 2203 Printer, Model A1.

All optional features of the I/O devices listed are also supported.

Reference: SRLs

IBM System/360 Model 20, Disk Programming System, Input/Output Control System, C24-9007-2 ... System/360 Model 20, Disk Programming System, Performance Estimates, C33-6003-0.

BASIC PROGRAM MATERIAL

Publications -- IBM System/360 Model 20 - Guide to the Disk Programming System, C33-6000 ... Disk Programming System, Operating Procedures, C33-6004 ... Disk Programming System, Control and Service Programs, C24-9006-2 ... Disk Programming System, Disk Utility Programs, C26-3810-1.

Documentation -- Basic Program Material List.

Machine Readable -- Users ordering at least one of the DPS programs will receive the complete set of Model 20 DPS programs with exception of the Distribution Package Retrieval Program 360W-SL-178, which is contained only in distributions on magnetic tapes. The DPS programs are available on one 1316 Disk pack, one 9-track-tape, (800 or 1600 bpi), or one 7-track-tape (800 cpi) Data Conversion feature required.

The 1316 Disk Pack returned from the program library will contain a running system as well as the card-resident control programs and sample decks in card-image format to be punched. It will be accompanied by 5 Disk IPL cards to be used for initializing the loading of the running system, which is referred to as the DPS disk pack.

Users with 2415 Magnetic Tape Units attached to their Model 20 System should request the programs on tape. The tape will contain the Distribution Package Retrieval Program to be activated by one Bootstrap Card distributed with the tape. The retrieval program will

- Initialize the first one hundred cylinders of a 1316 disk pack.
- Copy a running system as well as the card-resident programs and sample programs in card-image format on a 1316 disk pack.
- Punch the cards for initializing the loading of the DPS disk pack.

ORDERING PROCEDURE

See DP Sales Activity Section of the Branch Office Manual.

If only the publications or if additional copies are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

If the track and density requirements are not indicated on the back of the program order card, 9-track (800 cpi) will be forwarded.

Magnetic tapes (2400 foot) may be forwarded to PID or ordered. The order card should accompany the tape or tape order form; disk packs must be forwarded to PID with the order form.

John Fahey
Director of DP Marketing

Note to World Trade Readers. This is a reprint of an IBM P-Letter and was mailed concurrently to USA and WT offices. The following changes should be applied to the text for WT use. [1] Programs announced as available have been shipped to WT Program Libraries. Programs may be ordered as indicated on pages 9013-9017, PGM. Sec., WT DP Sales Manual. [2] Advance copies of form numbered publications mentioned above have been shipped or will be, when available. Availability will be announced in the Weekly Publications Letter. [3] When a new version of a program is announced current users must order it; they will not receive it automatically. [4] If DTR Distribution is indicated above, program distribution media may differ based on local conditions. [5] References made to PID means the appropriate WT Program Library. [6] Any reference made to DPD Depts. (or Regions) as sources of information means the comparable WT Dept. (or corresponding organizational level). [7] Communications facilities may be required which are not offered in all WT countries. In case of doubt as to availability of suitable facilities, consult the country TP Coordinator. [8] References made to Engineering Changes required should be verified with the local CE Office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

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1400 Autocoder to COBOL Conversion Aid Program (ACCAP) ... optional program material available. (A)

OS/360 and DOS/360 - 2740 Model 2 ... reprint of announcement ... date changed. (B)

1400 AUTOCODER TO COBOL CONVERSION AID PROGRAM (ACCAP) [A]

Optional program material for ACCAP (announced in P67-70 and P67-90) is now available. The source deck tape can be ordered from PID (360A-SE-19X). The system manual is available from the IBM Distribution Center, Mechanicsburg (Y20-0124).

Current users will receive a prepunched program order card and a letter announcing the availability of both the Optional Program Material and Version 1, Modification Level 1 of the program. This prepunched order card should be used to order the optional material and the modification level 1 package.

The local field systems center should be contacted before any effort is made to modify this program.

See the back for additional information.

Reprint of P67-89, Item A

OS/360 and DOS/360 - 2740 MODEL 2 [B]

Currently available support for the 2740 Communication Terminal, Model 1 under DOS/360 BTAM, DOS/360 QTAM, OS/360 BTAM, and OS/360 QTAM is compatible with the new 2740 Model 2.

Additional support is required for the 2740 Model 2 when both Buffer Receive (#1499) and Record Checking (#6114) features are installed. Availability for the support is:

DOS/360 BTAM, DOS/360 QTAM	August 15, 1968*
OS/360 BTAM, OS/360 QTAM	Second half 1968

Publications

IBM System/360 Disk Operating System: Basic Telecommunication Access Method, C30-5001-4 ... QTAM Message Control Program -- Specifications for a Future Version, C30-5004-0. IBM System/360 Operating System: Basic Telecommunication Access Method, C30-2004 ... QTAM Message Control Program -- Specifications for a Future Version, C30-2005-0.

* Changed from July 15, 1968. Customers affected should be notified.

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

John Fahey
Director of DP Marketing

Release Date: November 22, 1967

Distribution: All Areas

1400 Autocoder to COBOL Conversion Aid Program (ACCAP): ACCAP is intended to assist in converting 1400 series Autocoder or Symbolic Programming Systems (SPS) programs to System/360 COBOL. (360A-SE-19X)

Description: ACCAP is a System/360 Application Program which accepts as input source statements written in Autocoder or SPS for the 1401, 1410, 1440, 1460 and 7010 systems. It produces System/360 COBOL statements when possible and diagnostic messages in the case where the program is unable to complete the translation.

The purpose of ACCAP is to reduce the costs and manpower requirements for converting 1400 series programs to System/360 by (1) recoding to COBOL as many Autocoder statements as possible and identifying those statements that cannot be translated ... (2) generating syntactically correct COBOL which reduces coding and clerical errors ... (3) automatically producing a deck of the generated COBOL statements thus reducing keypunching requirements ... (4) providing a facility to convert to a problem oriented language that can be easily used as a new base for future additions, changes and development ... (5) retaining the original program logic and symbols to facilitate the conversion to COBOL and the testing of the new program ... (6) providing documentation and diagnostics for the new COBOL program in terms of the original Autocoder program.

ACCAP performs the conversion on a statement-for-statement basis; therefore, the generated code may not be as optimum as COBOL coding written expressly for System/360. Where the program is unable to translate the Autocoder (SPS) source statement, it will provide a diagnostic message. Thus a manual coding effort is required to complete the new COBOL source program prior to its compilation and testing.

Features: Machine assisted conversion of your customer's Autocoder (SPS) program to a problem oriented language ... generates COBOL statements using the same symbolic labels of the Autocoder program, supplemented with information indicating their original use ... all Autocoder comments are included on the COBOL listing and comment cards become COBOL NOTEs in the new source deck ... the output listing allows a programmer to relate the original Autocoder statements to the generated COBOL statements ... diagnostics, provided on the output listing, highlight the specific statements which require user attention ... retention of the original program logic allows the user to relate this logic to the new COBOL program ... no user modifications to the Autocoder source programs are required ... testing of the new COBOL program is facilitated by the use of the generated cross-reference listing ... produces properly structured COBOL divisions in sequence and creates a syntactically correct COBOL source deck ... improves the effectiveness of your customers' programming staff by relieving them of much of the clerical effort associated with program conversion.

Customer Responsibility: The potential user must become thoroughly familiar with the capabilities and limitations of ACCAP to determine the effectiveness of the program for his installation. The economies of using ACCAP in terms of manpower, machine time, and performance of the resulting program must be evaluated. Further, he should make trial conversions of representative production programs before deciding on general use of ACCAP.

The Application Description Manual (H20-0352) was specifically designed to aid your customer in making this decision.

The customer should determine the suitability of the Autocoder program for Conversion to COBOL. In addition, he should insure that the Autocoder (SPS) source programs used correctly reflect the current production run.

Use: The conversion process proceeds as follows: add the necessary control cards (approximately 6) to the selected Autocoder or SPS source deck ... execute ACCAP ... examine ACCAP output and manually complete the conversion by resolving the diagnostics as indicated on the COBOL output listing; the extent of this manual effort is a function of the programming techniques and statements used in the Autocoder (SPS) program which cannot be converted by ACCAP; programs should be selected for ACCAP conversion based on the knowledge of ACCAP's capabilities.

Special Sales Information: Before presenting ACCAP to the customer, the marketing representative should be completely informed as to the capabilities of the program, the objectives for which it was developed and the conditions under which it should be used.

This information is contained in the Application Description Manual and in the slide presentation available in each branch office. This material will also supply information as to the execution of the program based upon development and testing experiences.

In addition, the marketing representative should insure that his customer properly evaluates ACCAP for his installation and recognizes his responsibilities as stated above. It should also be recognized that customers new to COBOL will require education and guidance in the use of COBOL.

Programming Systems: ACCAP contains its own control program which was adapted from OS/360. This control program is independent of the user's System/360 Operating System and allows Autocoder or SPS programs or both to be stacked for input.

If the user desires to modify the ACCAP program, he must provide his own Operating System/360 which must contain both the COBOL E and COBOL F compilers.

Minimum System Requirements: A System/360 Model G40 (131K) with Decimal Arithmetic ... 1052 Printer-Keyboard Model 7 ... 2540 Card Read Punch Model 1 ... 1403 Printer ... two 2311 Disk Storage Drives.

The minimum configuration accepts Autocoder or SPS source decks of up to approximately 6,000 cards. Source decks up to 10,000 cards can be handled by adding to the minimum configuration one 2311 Disk Storage Drive or two 2400 tape drives.

The same EC levels required for OS/360, Release 11, are required for execution of ACCAP.

Basic Program Material:

Publications* -- Application Directory ... Programmer's Manual (Y20-0105) ... Operator's Manual (Y20-0106).

Machine Readable ** -- The dump/restore image of ACCAP system pack is available on one 9-track Magnetic Tape at 800 bpi, one 9-track Magnetic Tape at 1600 bpi, one 7-track Magnetic Tape at 800 cpi (Data Conversion feature required), or one 1316 Disk Pack.

Optional Program Material:

Machine Readable -- The ACCAP source decks are available on one 9-track DTR recorded at 800 bpi or 1600 bpi. It is also available on a 7-track DTR recorded at 800 cpi (Data Conversion feature required).

This program is highly complex and can lead to underestimating the modification effort. Therefore, contact your local Field System Center before committing any effort to modify the program.

Ordering Procedures: See Branch Office Manual, DP Sales Activity section.

*If only the form numbered manuals are required, order from Mechanicsburg -- not from PID. Customer orders for the manuals from Mechanicsburg require Branch Manager's approval.

**Magnetic Tapes (2400') may be forwarded or ordered (the order card should accompany the tape order form); disk packs must be forwarded to PID with the program order card.

When ordering this program, the requester must indicate the distribution medium required on the back of the program order card. If not specified, 9-track at 800 bpi will be forwarded.

Additional Program Support Material: Application Description Manual (H20-0352) ... System Manual (Y20-0124).

For further information contact your Field Systems Center.

Note to World Trade Readers

This letter is a reprint of an IBM Programming Announcement and was mailed concurrently to USA and WT offices. The following changes, when appropriate, should be applied to the text for WT use.

[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

[2] Advance copies of the form numbered publications mentioned in the above either have been shipped (with additional copies available from the IBM Distribution Center, Mechanicsburg, Pennsylvania) or will be shipped when available. In the case of the later, availability will be announced in the Weekly DP Marketing Publications Release Letter.

[3] When a new version of a program is announced current users must order it; they will not receive it automatically nor will they necessarily receive a prepunched request card in their Area.

[4] If DTR distribution is indicated in the above, program distribution media may be different in your area based on local conditions.

[5] All references made to the Program Information Department (PID) should be understood to mean the appropriate WT Program Library.

[6] Any reference made to DPD Departments (or Regions) as sources of information or for manuals etc. should be understood to mean the comparable WT Department (or corresponding organizational level).

[7] Communications facilities or services may be required which are not offered in all WT countries. In case of any doubt as to the availability of suitable communications facilities, the country Teleprocessing Coordinator should be consulted.

[8] References made to Engineering Change requirements should be verified with the local CE office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

IBM World Trade Data Processing P67-128

Program Announcement

Medical Information System Programs

This announcement supersedes item (C) in P66-61; therefore, it should be read in its entirety. This letter describes a special release procedure for MISP which will be in effect during 1968. Specifications of MISP are unchanged and are described on the back. Customers affected should be notified immediately.

Beginning in January 1968, MISP will be available under a controlled release plan. The controlled release plan is designed to meet the specialized market and implementation requirements of a Hospital Information System (HIS). Changes to this plan will be stated by December 1968.

A HIS consists of a system framework -- provided by MISP programs and documentation -- complemented by user-written application programs. Testing of MISP is dependent on the extent to which system facilities and parameters are required by user application programs. An assessment of individual system and environmental requirements in the medical industry establishes a high degree of variability in the scope of applications and in systems parameters (i.e., number of beds, nurse stations, service areas, drugs, etc.).

The controlled release plan will:

1. Assure complete testing in hospitals under varying environmental conditions.
2. Provide a suitable marketing and technical support environment for installation of a HIS.

Sites with an installed or on-order configuration required by the MISP and an installation plan approved by DPD Medical Industry Marketing are eligible to obtain the announced programs for installing. These hospitals, using MISP to install a HIS in 1968, will be considered in field test status and will receive special IBM support. MISP programs and documentation will be offered only after a written agreement has been signed between the customer and the IBM branch office (a sample agreement can be obtained from DPD Medical Industry Marketing, GEM HQ, Washington, D.C.).

The complex real-time hospital communications network and functional control system of HIS deeply impacts hospital operations and procedures. Most users require long lead times for education, training, design of manual back-up procedures, systems work in the service areas, establishment of formularies, etc., in addition to the writing and adapting of application programs. The controlled release plan will assist in assuring a coordinated installation program between the customer, the branch office, and Medical Industry Marketing.

The 65K minimum configuration requirement for these programs is intended to allow a suitable growth pattern for a customer installation from accounting to a limited HIS. Most customers will require a 128K Model 40 processor for a fully operational system.

Changes to minimum system requirements: The File Scan feature (#4385) is no longer necessary and the 1052 Follow-on Key and Sensing for 128 Keymats (RPQ E38484) is redesignated as the 1052 Type Entry Key and Sensing for 256 Keymats (RPQ E38484).

A series of system installation and customer classes in MISP will be conducted.

The names of potential test sites with specific installation schedules should be nominated to Medical Industry Marketing. No further customer commitment may be made relative to this program before written acceptance by Medical Industry Marketing of the proposed candidate account.

See the back for more details.

John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

Published by DP Sales Publishing Services, WTHQ

Release Date: November 28, 1967

Distribution: All Areas

Medical Information System Programs (MISP): A special release procedure for MISP will be in effect during 1968. MISP will be released under direct control of Industry Marketing - Medical, since testing of MISP is dependent on the extent to which system facilities and parameters are required by user application programs. This controlled release plan will assure the most complete testing in hospitals under varying environmental conditions and provide a suitable marketing and technical support environment for installation of a Hospital Information System (HIS). Changes to the availability procedure will be stated by December 1968. Sites with an installed or on-order configuration required by MISP and an installation plan approved by DP Medical Industry Marketing are eligible to obtain the announced programs for installing. These hospitals, using MISP to install a HIS in 1968, will be considered in field test status and will receive special IBM support. MISP programs and documentation will be offered only after a written agreement has been signed between the customer and the IBM branch office (a sample agreement can be obtained from DP Medical Industry Marketing, GEM HQ, Washington). Customers affected should be informed of this information as soon as possible and the names of potential test sites with specific installation schedules nominated to Medical Industry Marketing. No customer commitment may be made relative to this program before written acceptance by Medical Industry Marketing of the proposed candidate account. The controlled release plan will help in assuring a coordinated installation program between the customer, the branch office, and Medical Industry Marketing.

Description: Recognizing the need for each hospital to install a system tailored to individual needs, the input, output, data, communications, and processing required in all hospital areas (admitting, nurse station, pharmacy, etc.) were analyzed in detail, and common program modules and functions defined. These common programs and facilities form the Medical Information System Program (MISP), written especially for hospitals allowing easier installation of user applications in each hospital area. MISP in combination with user programs accepts admitting information, doctors' orders, laboratory results, etc.

The programs may be divided into two categories: Executive and Subroutine Library.

The Executive Programs use DOS facilities, initialize, suspend or terminate system operation, select, initialize and terminate application programs, maintain system status and priority, manage communication lines, handle the timer, initialize time-called programs, handle interrupts, queue messages and manage I/O.

The library programs are commonly-used subroutines assembled with user-written instructions to construct the application programs. Routines are available to insert orders into the Patient Master Record (PMR), scan the PMR for information based on user-specified parameters, scan and update both activity and reminder tables, check messages for valid source, access PMR based on admission number, search tables, and various conversions between date and elapsed time.

Representative record layouts are provided with the programs. These designs include control tables required to describe each user's specific installation, service area master records, patient orders and station activity tables.

Features: Capability for operating both Tele-processing and background programs simultaneously ... locations can be defined by symbolic reference ... centrally located patient master record ... executive program design allows application program exchange between hospitals ... hospital application programs constructed with powerful MISP subroutine library ... modular program construction allows generation of an individually tailored system.

Customer Responsibilities: Gathering master file data ... constructing and coding Assembler Language application programs within the requirements of the MISP environment ... parallel operation during system checkout ... keymat design and procedure handbooks ... training personnel on terminal and system operation ... backup procedures and restart programs ... assuring accuracy of system input and output ... selection of terminal and system sites.

Branch Office Responsibility: The serviceability requirements of a HIS are especially significant due to the vital nature of the application. These requirements will be proportionate to the scope of a particular HIS. The branch office must address the systems serviceability requirements for the specific needs of their customer and his specific use of MISP in his installation. DP Systems Assurance approval and Field Engineering review for their particular customer situation are required.

Special Sales Information: The Medical Information System Programs reduce the customer programming effort, provide a basis for uniformity in system design among users, and offer a means for each customer to construct a hospital information system to meet his own needs. System installation and customer classes are planned nationally at central locations, and dates will be announced through Medical Industry Marketing. Enrollments will be coordinated on an installation date priority basis through the Regional Medical Representatives and the Medical Development Programming Center, Cranford, N. J.

Programming System: The Medical Information System Programs use DOS/360. The program modules are written in Assembler Language. For background jobs, the hospital can utilize any object program or job (RPG, Sort/Merge, etc.) supported by DOS/360, requiring 10K of core or less and not using the MISP Executive Programs.

Minimum System Requirements: System/360 Model 30F, Interval Timer (#4760), Selector Channel (#6960), Storage Protection (#7520), Decimal Arithmetic (#3237), 1051 Attachment (#7915) ... 1442 Card Read Punch Model N1 ... 1443 Printer Model N1 ... 1051 Control Unit Model N1, CPU Attachment (#3130), First Printer Attachment (#4409), First Punch Attachment (#4410), First Reader Attachment (#4411), Systems Console Attachment (#9708) ... 1052 Printer-Keyboard Model 8 ... 2841 Storage Control Model 1 ... four 2311 Disk Storage Drives Model 1 ... 1316 Disk Packs Model 1 as required ... 2702 Transmission Control (15 lines), Terminal Control - Type 1 (#4615), Selective Speed (#9684); 31 Line Expansion (#7955) and Terminal Control Base dependent on number of lines and terminals required.

The minimum processor (Model F, 64K) is intended to provide a suitable growth program for a customer installation (from accounting to limited Tele-processing and HIS testing, and leading to an operational HIS). Most customers will require a 128K, Model 40G, processor for an operational HIS; an operational HIS should include additional on-line error recording and error recover facilities. These cannot be included in a 64K, Model F, processor with 20 terminals and a 10K background program area. Consult your Medical Industry Marketing Representative and Regional DP and FE Systems Assurance Representatives for the specific trade-offs for your customer before contacting the customer. Certain program modifications will be required to take advantage of the increased core available in a 128K, Model G, system. Individual terminal configurations use 1051 Control Unit with special features. All terminals will have a 1092 Programmed Keyboard Model 2 with Multiple Key Depression (#5247), 1051 Attachment (#7915), and 1052 Type Entry Key and Sensing for 256 Keymats (RPQ E38484). Depending on the particular terminal location, a 1052 Printer-Keyboard or 1053 Printer will also be required. The laboratory configuration will require a 1093 Programmed Keyboard Model 2 in addition to a 1092. Admitting will require a 1056 Card Reader Model 2. A system operator's terminal should include at least one component of every type used throughout the hospital.

Other input/output units may be required to satisfy individual user application and backup requirements. The programs provide an interface for user programs written to support these devices. Consideration must be given to: volumes of input and output in light of required throughout speeds ... background system availability ... accounting system needs ... audit, backup and restart programs and procedures ... other devices supported by DOS/360.

Reference Material: Application Description Manual -- "Medical Information System Programs" (H20-0182-1).

For further information contact your Medical Industry Marketing Representative.

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IBM World Trade **Data Processing**

67-129

Program Announcement

1130 Linear Programming–

Mathematical Optimization Subroutine System (1130 LP-MOSS)

The System Manual (Y20-0141) and source language for the 1130 Linear Programming-Mathematical Optimization Subroutine System (1130-CO-16X) are now available. These materials describe the user access to components of the system through FORTRAN.

In addition, Modification Level 1 is being distributed to all current users. This modification corrects all known program malfunctions. The system manual and the source language correspond to Version 1 Modification Level 1.

See the back for ordering information for new users and other details.

Contact your Field System Center Manager for installation assistance and Regional Scientific Marketing Manager for further marketing information.

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: November 30, 1967

Distribution: All Areas

Linear Programming Mathematical Optimization Subroutine System: Provides the 1130 disk user with a simple, efficient means of solving linear programming problems and a means for implementing a variety of mathematical optimization applications. (1130-CO-16X)

Mathematical optimization is any mathematical technique for determining the optimum use of various resources such as capital, raw materials, manpower, and plant or other facilities. The technique seeks to attain a particular objective as for example, minimum costs or maximum profit, when there are alternate uses for the resources. Linear programming is the most widely used of these techniques, and has been used to allocate, assign, schedule, select or evaluate the uses of limited resources for various jobs such as blending, mixing, bidding, cutting, trimming, pricing, purchasing, planning and the transportation and distribution of raw materials and finished products.

For the 1130 configuration specified, LP-MOSS/1130 has a logical processing capacity of 700 rows, including all objective rows. The number of columns is limited only by disk space available. The system uses sophisticated scaling and inversion techniques designed to produce accurate, reliable solutions within the limits of a 31-bit mantissa.

The Linear Programming System (LPS) of LP-MOSS: LPS provides the user with an easy means of solving linear programming problems. LPS is controlled by procedure control cards (or paper tape records) which specify the solution sequence. Input data originate on cards or paper tape and are stored on the disk for subsequent processing. Several problems may be stored on disk and updated, re-run, or combined. For example, a corporate model can be formed from division models, or a total production plan from the plans for individual products.

Reports may be on cards, paper tape, typewriter, or printer. Output options include a full solution report, comprehensive solution analysis and parametric analysis reports.

LPS Features: Provide user control of the LP procedure execution sequence. The LPS procedures provide a programmed access to all of the LP-MOSS subroutines and programs.

Large problem capacity (program logic provides for up to 700 rows) ... simple, flexible, processing control (optional conditional control of processing sequence and special solution of simultaneous equations procedure) ... simple problem definition (easy to use format and extensive data maintenance functions, specification of a starting solution basis, combination of problems to form master problems) ... advanced mathematical methods (automatic, iterative, input scaling for accuracy, revised simplex method [product form of inverse], bounded variable feature for range [$\leq$ and $\geq$] constraints and bounded variables to simplify problem description, and to increase problem capacity and solution speed) ... multiple pricing ... efficient triangularization inversion method for accuracy ... extensive post-optimal analysis options (discrete parametric analysis for all problem data and activity-cost-bound relationship for all variables) ... extensive checking (input check for duplicate entries, solution processing check to test for need of early inversion and automatic solution check).

Additional Feature: FORTRAN provides a programming access to the LP procedures, and to the subroutines and programs of LP-MOSS. The FORTRAN programming access to the components of LP-MOSS is described in the System Manual. The user should not attempt to use this feature until thoroughly familiar with the LPS features of LP-MOSS and before studying the System Manual.

Customer Responsibilities: The customer must be familiar with the 1130 LP-MOSS input and procedures. The Program Reference Manual is directed to the new user. It provides a tutorial which assumes some familiarity with simultaneous equations or linear programming.

The LP-MOSS is ready to run as distributed, complete with sample problem. The customer need only load the cards onto a disk.

Special Sales Information for Paper Tape Systems Only: The LP-MOSS object decks and sample problem are not available on paper tape. If a customer has a paper tape system, he must have access to an 1130 system which includes an IBM 1442 Card Read Punch for the initial phase of system generation.

Precision and Accuracy: All computations are performed in extended precision (31-bit mantissa). Linear programming accuracy is usually a function of problem size, scaling, complexity and system mantissa length. The system scaling procedures and inversion methods are designed to produce accurate, reliable solutions within the limits of a 31-bit mantissa.

Machine and System Configuration: An 1130 Model 2B (with 8,192 words of core storage) and one disk storage drive ... 1442 Card Read Punch or a 1134 Paper Tape Reader or both ... 1055 Paper Tape Punch (optional) ... 1132 Printer (optional) The recommended 1130 system for best performance and simplest operation includes a 1442 Card Read Punch with an 1132 Printer.

Programming System: LP-MOSS/1130 operates under control of the 1130 Monitor System, Version 1. The source language is 1130 FORTRAN.

Basic Program Material:

Publications* -- Application Directory ... Program Reference Manual (H20-0345)

Machine Readable -- Object Deck and Sample Problem Deck available in card form.

Optional Program Material:

Machine Readable** -- Source Statements available on one 9-track DTR at 800 or 1600 bpi.

Ordering Procedure: See DP Sales Activity section of the Branch Office Manual.

*If only the form-numbered publication or additional copies of the form-numbered publication are required, order from the IBM Distribution Center, Mechanicsburg -- not from PID.

**If the density requirement is not specified on the back of the program order card, 9-track at 800 bpi will be forwarded. DTRs will be supplied by PID; no tape submittal is required.

Magnetic Tapes (2400') may be forwarded or ordered (the order card should accompany the tape order form).

Additional Program Support Material: Application Description Manual (H20-0238-1) ... System Manual (Y20-0141).

Reference Material: Introduction to Linear Programming (E20-8171) ... Aluminum Alloy Blending (E20-0127) ... Electric Arc Furnace Steelmaking Manual (E20-0147) ... Feed Manufacturing (E20-0148) ... Ice Cream Blending (E20-0156) ... Blast Furnace Burdening (E20-0160) ... Cotton Blending (E29-0164) ... Gasoline Blending (E20-0168).

For further information contact your Regional Scientific Marketing Manager.

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[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

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IBM World Trade Data Processing 67-130

Program Announcement

1410/7010 Emulator Program

for IBM System/360 Model 40

CONTENTS

1410/7010 Emulator Program for IBM System/360 Model 40, 360C-EU-728 ... Version 4 available

Published by DP Sales Publishing Services, WTHQ

Version 4 can now be ordered.

In addition to all the features of the prior version, Version 4 provides additional disk storage support on the 2314 Direct Access Storage Facility Model 1. The storage units are:

Models 1 and 2 of the 1301 and 2302 Disk Storage Units.

IMPROVEMENTS

Due to the changeable disk packs (which are available on the 2314 Direct Access Storage Facility and not on either the 1301 or the 2302 Disk Storage Units), greater flexibility of operations is realized by the user.

Support of the 1301 and 2302 Disk Storage Units enables users of those units to convert to System/360 without the need for burdersome and costly reprogramming. Formerly, only users of the 1301 benefited by the emulator program.

PERFORMANCE

The extended and expanded disk support provides increased operating speed for disk operations, thus decreasing the execution time for disk operations by up to 10% over the 1410 time, (depending on the operation performed), when the 2314 Direct Access Storage Facility is used. (See Appendix A, SRL C28-6563-3, for 2314 Disk Timing Information.)

SPECIAL SALES INFORMATION

- The 2314 Direct Access Storage Facility may be attached to Selector Channel 1 or 2 but not both.
- The 2314 Direct Access Storage Facility is not allowed to overlap with any other Input/Output device on the IBM System/360 Model 40 under emulation.

MINIMUM SYSTEM AND EC REQUIREMENTS

REA 02-06-177 on the 1410 compatibility feature (#4478) is required for proper functioning of System/360 Model 40 1410/7010 Emulator Program with the 2314 Direct Access Storage Facility Model 1. This REA is in EC #258013.

ADDITIONAL HARDWARE SUPPORTED

Version 4 includes emulation of Models 1 and 2 of the 1301 and the 2302 on the 2314 Direct Access Storage Facility Model 1.

CAPACITY CORRESPONDENCE

1410/7010 Disk Storage Unit	S/360 Model 40 Disk Storage Unit
1301 Disk Storage Models 1 & 2	2302 Disk Storage Model 3 or 4, or 2314 Direct Access Storage Facility Model 1.
2302 Disk Storage Model 1	2314 Direct Access Storage Facility Model 1.
2302 Disk Storage Model 2	Two 2314 Direct Access Storage Facilities Model 1's.

Note: Three 2314 Direct Access Storage Facility Model 1 modules (of the eight available) are required to emulate one 1301 or 2302 access arm. Unused 2314 modules remain available for other operations.

BASIC PROGRAM MATERIAL [360C-EU-728]

Publications -- System/360 Model 40, Emulation of the IBM 1410/7010 Data Processing System, C28-6563-3 and TNL N27-1282 ... System/360 Conversion Aids: Sample Problems for System/360 Emulator Programs, C27-6929.

Documentation -- Program Material List ... Emulator Restrictions.

Machine Readable Material -- The absolute loader, emulator object deck, sample problem and disk loader are available on one DTR at 9-track (800 or 1600 bpi) or 7-track (800 cpi) Data Conversion feature required.

Ordering Procedure: See DP Sales Activity Section of the Branch Office Manual.

If only the publications or if additional copies are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

If the distribution medium is not indicated on the back of the program order card, 9-track at 800 bpi will be forwarded.

DTRs are provided by PID; no tape submittal is required.

Current users will receive a prepunched program order card and a letter announcing the availability of the new version, and instructing the users to order the new version through the branch office. This card must be used to order the new version.

John Fahey
Director of DP Marketing

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS".

FOR IBM INTERNAL USE ONLY

Release Date: November 29, 1967
Distribution: All Areas

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IBM World Trade Data Processing

P67-131

Program Announcement

1130 AND SYSTEM/360 AUTOMATED CHEMISTRY PROGRAMS (ACP)

These programs will be available as announced in P67-93 and P67-117.

The program availability dates are repeated here:

1130 ACP available 3Q 68
System/360 ACP available 2Q 68

The 1130 Application Description Manual (H20-0482), containing detailed specifications, is now available from Mechanicsburg. The availability of the System/360 Application Description Manual (H20-0475) was announced in a Publication Release Letter.

See the back of this letter for details.

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: November 30, 1967
Distribution: All Areas

1130 and System/360 Automated Chemistry Programs: These programs are for support of the IBM 1080 Data Acquisition System in the clinical laboratory.

Description. These programs will be able to process, on either an 1130 or System/360, the punched card output of the IBM 1080 Data Acquisition System.

Processing of 1080 Punched Card Output -- Establishes the calibration function from control standards ... checks the quality of the control standards used ... determines the standard deviation of the standards employed for quality control purposes ... computes the test result ... adjusts the test result for instrument drift that might have occurred ... adjusts the test result for interaction between specimens (high concentration followed by low concentration) ... compares test result with mean and standard deviation of cumulative data for all results for that test ... associates each test result with the proper specimen identification number.

Setting Up A Test Result File -- Sets up a file by specimen number, and tests results for each test ordered ... the data from this file can be transferred to and integrated with a Patient Master Record by user-written routines.

Print Out Of Quality Control Report -- Prepares a quality control report for review by the laboratory prior to release of test data for distribution to the ward or clinic ... the quality control report lists for each specimen processed: test result, dilution factor (if any), abnormal indication for 1 or 2 standard deviations, and specimen number.

Features: These programs encompass the following unique features that produce more reliable test results -- check reliability of control standards ... adjust for analyzer drift ... adjust for interaction of specimens with widely differing concentrations ... report quality control information ... flag abnormal test results for retesting of these specimens.

Special Sales Information: The output from these programs can be combined with the user-provided basic patient data and printed by simple user-written routines to serve as a Patient Summary Sheet for tests processed by the Automated Chemistry Programs.

Use: These programs are loaded into the library and called via job control cards ... environmental data are loaded and retained on disk via a maintenance program included with the Automated Chemistry Programs; this is a one time operation for a given operating environment ... 1080 card output can then be processed.

Customer Responsibilities: Providing basic patient data, associating patient number and specimen number ... setting up the 1080 by providing a description of which analyzer strip chart recorders are associated with which 1084, a description of the tests run on each 1084, test number and name, concentration of each calibration-standard, control standards used, and chemistry procedure used.

Programming Systems: These programs are written in FORTRAN and Assembler Language. They are designed to operate under DOS on System/360, or under the 1130 Disk Monitor System.

Minimum System Requirements for System/360: A 2030E (32K) with Decimal Arithmetic (#3237), Floating Point Arithmetic (#4427), Selector Channel-First (#6960) ... 1052 Console Typewriter with appropriate attachments ... 1442 Card Read Punch Model N1 ... 1443 Printer Model N1 ... 2841 Storage Control Model 1 ... one 2311 Disk Storage Drive Model 1.

Minimum System Requirements for 1130: An 1131 Model 2B (8K) Central Processing Unit with Disk Storage Drive with 1132 Attachment (#3616), Expansion Adapter (#3854), 1442 Model 6 or 7 Attachment (#4454) ... 1442 Card Read Punch Model 6 ... 1132 Printer Model 1.

Program Support Material: System/360 ACP Application Description Manual (H20-0475) and 1130 ACP Application Description Manual (H20-0482).

For further information contact your Regional Medical Industry Marketing Representative.

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IBM World Trade Data Processing

Program Announcement

System/360 Attached Support Processor System (ASP)

Modification Level 4, which includes three significant improvements, will be distributed to current users the week ending December 8 (360A-CX-15X). This modification (announced in P67-83) includes the following new features:

- Support of the IBM 2314 for ASP work queue.
- Support of Operating System/360 (OS/360) Multiprogramming with Fixed Number of Tasks (MFT) on the Support Processor.
- Support to permit use of Synchronous Transmit-Receive (STR) terminals for remote job processing.

The addition of IBM 2314 support for the ASP work queue enhances the workload capacity of the ASP system by adding a larger, faster, and more versatile device for the work queue. The support of OS/360 MFT control program allows an installation, within the constraints of good system design, to increase the number of OS/360 tasks assigned to the Support Processor. Care must be taken in selecting Support Processor configurations and tasks in an MFT environment to ensure that ASP system performance will not be degraded for such a configuration.

The ASP system supports two data formats for transmission to and from STR remote terminals: the IBM 1978 (RPQ device) data format in Send Binary and Receive First Character modes, and a specially defined data compression format oriented toward System/360 computer terminals. Provision is made in the ASP STR remote terminal support to permit dedicated or nondedicated lines and programmer-specified data set routing. It is the responsibility of the customer to provide the programming of any remote computer terminals.

A preliminary copy of the revised System Programmer's Manual (H20-0323-2) will be sent with Modification Level 4. Additional copies may be obtained from ASP Regional Representatives. Preliminary copies of the revised System Manual (Y20-0069-1) are available from the ASP Regional Representatives.

Note: H20-0323-2 and Y20-0069-1 should not be ordered from the IBM Distribution Center, Mechanicsburg, until their availability is announced in a Publications Release Letter.

See the back of this letter for details.

Published by DP Sales Publishing Services, WTHQ

John Fahey
Director of DP Marketing

Release Date: November 30, 1967

P67-132

Distribution: All Areas

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Attached Support Processor: Provides a multiprocessor operating system as an extension of IBM System/360 Operating System (OS/360). Through a reduction in required operator intervention, ASP provides an improved operational environment, enhancing system workload capacity and reducing turnaround time. The configuration consists of two IBM System/360 computers connected via the channel-to-channel adapter. The Support Processor (Model 40 or larger) provides the support functions (including card reading, punching, and printing) under computer control, while a high-speed Main Processor (usually Models 50, 65, or 75) performs the application workload. ASP also permits intermixing of OS/360 and 709X Emulator (360C-EU-729) jobs in the input stream, supports remote job processing from STR terminals, and permits other background jobs to share Support Processor CPU time with the primary support functions. (360A-CX-15X)

Description: The ASP Supervisor operates as a task in the Support Processor under control of OS/360. Either the Primary Control Program or Multiprogramming with Fixed Number of Tasks (MFT) Control Program may be used. The ASP Supervisor schedules and initiates the various support and background functions, including input of jobs to the Main Processor, on a priority basis. Since it is not planned to provide multiprogramming in the Support Processor in a well-defined, limited framework, the ASP Supervisor operates as a multiprogram monitor to allocate CPU and channel time, core storage, and devices among the various functions, with minimal overhead.

The Main Processor operates under the OS/360 Primary Control Program. The system input and output devices for the Main Processor are replaced by the channel-to-channel connection with the Support Processor. Direct access storage devices for systems residence and program library are attached to the Main Processor, as are any input/output devices accessed during execution by the problem programs. The operating system in the Main Processor provides an environment for the problem program identical to a standalone system, with the exception of the use of the OS/360 catalog and Automatic Volume Recognition. The use of the OS/360 catalog for generation data groups will cause operational problems and should be avoided. The Automatic Volume Recognition feature of OS/360 cannot be used on the Main Processor. The performance of the system is directly related to the throughput capability of OS/360 on the Main Processor.

Modifications incorporated into OS/360 permit 709X Emulator and OS/360 jobs to be intermixed in the input stream. Operating System/360 used in the Main Processor is modified to overlay itself with the Emulator program upon a signal from the Support Processor. The 709X Emulator program is similarly modified to overlay itself with OS/360 at the end of an emulation job or a group of consecutive emulation jobs. The Emulator program is also modified to recognize the channel-to-channel adapter as its system input and output devices. Thus, the system input and output streams for Emulator jobs are handled by the Support Processor in the same manner as are those for OS/360 jobs.

The Support Processor will accept job streams from remote computer terminals over STR transmission lines. The ASP system will support two input/output data formats for this remote job processing. One is compatible with the IBM 1974 or the IBM 1978 terminals (RPQ devices). The other is oriented toward IBM System/360 computers (Model 20 and other System/360 processors equipped with proper STR features on a 2701 Data Adapter Unit) and the IBM 1130 system. The data format is suitable for any computer which has an eight-bit byte data format and which can accept STR transmission. *Note that the ASP system does not include the customer programming* that is necessary in the remote terminals.

Features: Increased system workload capacity ... reduction of turnaround time ... improved operating efficiency ... intermixed OS/360 and 709X Emulator jobs in the input stream for a Model 65 Main Processor with the 709X Emulator feature) ... workload balancing between two System/360 processors.

These features are made possible by:

1. Computer-controlled execution of support functions in a multiprogrammed mode on a lower cost Support Processor. This feature permits --
   a. Priority job scheduling.
   b. Automatic processing of system input and output data sets.
   c. Automatic switching between OS/360 and 709X Emulator jobs.
   d. Concurrent processing of peripheral and other user programs, such as Card-to-Tape ... Tape-to-Tape ... Tape-to-Printer ... Tape-to-Card ... Card-to-Printer ... Card-to-Card ... 7090/94 Direct Couple Operating System (DCS) Tape Format Deblocking ... user-written background programs.
2. Reduction of resource interference on Main Processor in terms of --
   a. Core Storage. Core buffering of Main Processor input and output data sets in the Support Processor.
   b. CPU Time. Multiplexer channel interference and interrupt service for peripheral input/output devices eliminated in Main Processor.
   c. Data Channels. Selector channel data flow time for system input and output on Main Processor reduced.
   d. Input/Output Devices. Algorithm provided for efficient management of direct access storage devices for system input and output data sets.
3. Pre-execution setup of 2400 Magnetic Tape Units and 2311 Disk Storage Drives on the Main Processor.
4. Support of multiple operator consoles for diversification of system operation.
5. Concurrent input/output background processing on Support Processor during emulation on Main Processor.
6. Selective job scheduling for Main Processors and Support Processor devices.
7. Remote job processing from STR terminals.

Use: Operational control of the ASP system is exercised by the operator from the console typewriter or an alternate operator console on the Support Processor. A command language is provided to start ASP, to delete and restart jobs, to initiate background processing, to change priority of jobs, and to determine the backlog of jobs in the queue.

ASP provides a standard sequence of functions for each job in the Support Processor: Input Service, Main Processor Service, Print Service, Punch Service, and job purge. This standard sequence may be replaced to adapt to the particular needs of an installation. Special control cards are not required for jobs using the standard sequence. The ASP control cards provide a simple means of altering this sequence for a particular job.

The ASP program in the Support Processor requires an OS/360 JOB card with several additional fields for each job run under the system. These fields are used to convey accounting and priority information to the ASP Supervisor. They are ignored by OS/360 when it reads the JOB card in the Main Processor.

For jobs to be executed under the control of the 709X Emulator, the programmer must use an ASP JOB card and 709X Emulator control cards in addition to the control cards required by the 7090/94 programming system being used. The ASP system separates the ASP control cards and 709X Emulator control cards from the job stream, presenting the 7090/94 programming system with its system input job stream only. The Support Processor may assume the functions of the online unit record devices for the 709X Emulator provided the operator is not required (through program logic) to attend to or examine these devices during program execution.

Special Sales Information: ASP is designed for the user (with a large scientific system) whose workload consists of many jobs of short duration. The degree to which an installation will realize the functional and performance advantages of the ASP system is determined primarily by the nature of the job mix.

Customer Responsibilities: A customer using ASP must take the following steps prior to installation to ensure that the use of the system will be satisfactory --

1. The customer must be responsible for ordering and installing satisfactorily all required communications equipment.
2. Appropriate training must be given the application programmers and system operators in OS/360 and the 709X Emulator, in addition to training in the use and operation of ASP.
3. It is highly recommended that a customer system programmer become familiar with the internal operations of the system. This knowledge will enable him to customize the ASP system to the unique operational environment of his installation.
4. The customer is responsible for any programming necessary to operate the remote terminals.

Programming Systems: The ASP systems programs are written in OS/360 Macro Assembler Language. Programs to provide additional functions, known as Dynamic Support Programs (DSPs), can be incorporated into the Support Processor by the customer at his installation. These programs also must be written in OS/360 Macro Assembler Language. The minimum OS/360 control program that will execute ASP includes the Primary Control Program, a linkage editor, and the OS/360 utility programs. The OS/360 Macro Assembler program (F-level) must be available if program modifications are anticpated.

ASP users must order these programming systems separately -- OS/360, the 709X Emulator program (360C-EU-729), if used, and the Synchronous Transmit-Receive Access Method for OS/360 (360A-SE-33X), if STR terminals are to be used.

Minimum System Requirements: The configuration requirements for the Main Processor are identical with those of a standalone processor operating under OS/360, except that the channel-to-channel adapter replaces the normal system input and output devices. If the 709X Emulator is to be used, the Main Processor must have at least one 2311 Disk Storage Drive for OS/360 and 709X Emulator checkpoints. The modifications to the OS/360 Primary Control Program nucleus that are required for operation as an ASP Main Processor increase the nucleus by approximately 2,500 bytes.

Support Processor With OS/360 Primary Control Program: The minimum Support Processor for executing under the Primary Control Program is a Model 40G with two selector channels (one dedicated to the channel-to-channel adapter) ... one 1052 Printer-Keyboard Model 7 (Console Typewriter) ... one 2540 Card Read Punch ... one 1403 Printer Model 2 or N1 ... three 2311 Disk Storage Drives. This configuration permits queuing of up to 30 jobs. (A job is considered equal to a combined input and output stream of 5,000 100-byte records.) System capacity can be expanded by attaching additional units of the 1403 Printers Model 2 or N1 ... 2540 Card Read Punches ... 2311 Disk Storage Drives ... 2401 Magnetic Tape Units (at least one 9-track or 7-track with Data Conversion feature unit is recommended for system maintenance). The ASP system supports 2401 Magnetic Tape Units Models 1, 2, or 3 for use by background programs.

In addition, a 2701 Data Adapter Unit with the Synchronous Data Adapter Type I may be attached for remote job processing. When the number of functions required or the workload capacity needed exceeds the capabilities of this configuration, larger core storage or a faster processor should be considered. An IBM 2314 Direct Access Storage Facility may be substituted for 2311 Disk Storage Drives as the ASP work queue device. The number and type of direct access storage devices, the type of processor, and the size of core depends upon the individual installation's workload. The user should refer to the ASP System Programmer's Manual (H20-0323), which contains an algorithm for estimating core storage needs.

Devices supported as auxiliary operator consoles in the ASP system are -- IBM 2740 Communication Terminal attached on a dedicated line through an IBM 2701 Data Adapter Unit ... IBM 1443 Model N1 Printer (output only) ... IBM 1053 Model 4 Printer attached through an IBM 2848 Display Control (output only) ... IBM 1403 Model 2 or N1 Printer (output only).

Support Processor with OS/360 Multiprogramming with Fixed Number of Tasks (MFT): The minimum Support Processor for use of OS/360 MFT control program is the same as for the Primary Control Program except for the following additions:

- The minimum support processor is a Model 40H. For MFT operation, the minimum ASP partition size is 100,000 bytes. Consideration should be given, however, to larger partition sizes, commensurate with planned system facilities.
- Additional peripheral equipment must be added to support system input and output to the other tasks. Either two 2400-series tape units or an additional 2540 Card Read Punch and a 1403 Printer Model 2 or N1 will satisfy this requirement. Since ASP never terminates, it is unable to share the devices which are allocated to it.
- At least one IBM 2740 Communication Terminal, attached through the 2701, must be added as the ASP operator terminal. Since the IBM 1052 Printer-Keyboard must be reserved for OS/360 system operations in an MFT environment, it is unavailable to the ASP system for operator communications.
- At least one IBM 2401 Magnetic Tape Unit (9-track or 7-track with Data Conversion feature) should be available for system maintenance.

Note: All ASP configurations are complex configurations and must be system assured.

Engineering Change Levels: In addition to the required engineering changes to run the supported levels of OS/360, the 709X Emulator and the Synchronous Transmit-Receive Access Method for OS/360, the EC levels required for proper functioning of the ASP system are EC 705754 and EC 254902 on the Channel-to-channel Adapter (#1850).

Basic Program Material:

Publications*-- Application Programmer's Manual (H20-0322-1) ... Console Operator's Manual (H20-0321-2) ... System Programmer's Manual (H20-0323-2) ... Application Directory.

Machine Readable**-- Object programs, source programs, OS/360 modifications, 709X Emulator modifications, and macro definitions are available on one 9-track, 2400' reel of magnetic tape at either 800 or 1600 bpi or one 7-track, 2400' reel at 800 cpi (Data Conversion feature required).

Optional Program Material:

Machine Readable**-- An assembly listing tape and a flowchart listing tape are both available on separate 9-track 2400' reels of magnetic tape at either 800 or 1600 bpi or on 7-track 2400' reels of magnetic tape at 800 cpi (Data Conversion feature required). These tapes may be printed with the OS/360 utility program or the ASP tape-to-printer program.

Ordering Procedure: See DPD Sales Activity section of the branch office manual.

*If only the form numbered publications are required, or if additional copies of the publications are required, order from the IBM Distribution Center, Mechanicsburg -- not PID.

**If the track and density requirements are not listed on the back of the program order card, 9-track at 800 bpi will be forwarded. Magnetic tapes (2400') may be forwarded or ordered. If tapes are ordered, the tape order form should accompany the program order card.

Note: Because of special copy procedure required for 7-track tape, normal order processing turnaround time may not be observed.

Additional Program Support Material: System Description (H20-0223-1) with TNL (N20-1057) ... System Manual (Y20-0069-1) ... System Description -- Version 2 (H20-0466).

For further information see your ASP Regional Marketing Representative.

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SYSTEM/360 RETAIL IMPACT FASHION SYSTEM

Version 1 Modification Level 0 of the Retail IMPACT Fashion System under Operating System/360 (360A-DR-04X) may now be ordered; shipments will begin the week of December 15, 1967. The system provides for effective highlighting of items requiring action to maximize the profit potential in fashion departments.

The Fashion System uses probability science to help the buyer respond quickly to styles performing significantly above or below other competing styles, based on profitability. Automatic recommendations are made for reorder, return, markdown, and transfer based on sophisticated statistical techniques which accurately analyze the potential of a style early in its life. The basic yardsticks used for making recommendations are dynamic class (or group) standards that respond to seasonal and style-mix changes and are based on profitability (the interaction of turnover and markup).

The maintenance of complete records at the style level eliminates tedious and sometimes inaccurate updating of manual records. Appropriate documentation and interfaces are provided for the user who wishes to maintain size and color detail. Status Inquiry at buyer request (vendor status, etc.) is available; also various merchandise management reports can be created from the style master records (aging, stock status, etc.). This combination of exception reporting and automatic maintenance of style records reduces the amount of clerical effort on the part of the buyer and his staff and enables them to achieve optimum results by concentrating on the creative aspects of fashion merchandising.

Availability of the Fashion System (OS) and other Retail IMPACT Systems (as announced in P67-107 is:

OS/360 Version

. Retail IMPACT Fashion System	Available (360A-DR-04X)
. Retail IMPACT Staple System	1Q 69

DOS/360 Version

. Retail IMPACT Fashion System	Availability date to be announced 4Q 67
. Retail IMPACT Staple System	Availability date to be announced 4Q 67

See the back of this letter for details.

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

Release Date: November 30, 1967

Distribution: All Areas

FOR IBM INTERNAL USE ONLY

Retail IMPACT System: Retail IMPACT is a total inventory management system designed specifically for the Retail Industry. Two independent systems are provided: one applies to staple merchandise and the other, to fashion. These two systems enable retail management to increase the opportunity for sales by increasing the availability of merchandise and at the same time to maintain a balanced inventory consistent with management objectives. They also provide for effective highlighting of items requiring action to maximize the profit potential in a department.

Availability of the Retail IMPACT Systems:

OS/360 Version

. Retail IMPACT Fashion System	Available (360A-DR-04X)
. Retail IMPACT Staple System	1Q 69

DOS/360 Version

. Retail IMPACT Fashion System	Availability date to be announced 4Q 67
. Retail IMPACT Staple System	Availability date to be announced 4Q 67

Staple System:

Description -- This system uses an advanced forecasting subsystem which employs adaptive forecasting, probability and statistical science with appropriate decision rules to forecast demand, determine order points, and order up to levels. An advanced control subsystem is provided tailored to the needs of the retail industry which creates purchase orders, controls merchandise on order, and monitors the performance of the system in terms of inventory and level of service.

This system also provides for the simulation of a number of management policies, as well as for projecting demand and inventory behavior over an extended period, resulting from a particular policy or set of policies. With this feature, management will be able to establish a priority for departments to be implemented and obtain an estimate of the system's potential in these departments. The system reduces the difficulty of maintaining large inventories in multiple locations, typical of today's retail industry. For the first time retail management can achieve the highest possible level of service for a specific level of inventory.

Optimum use of the system is achieved through the capture of daily sales information at the point of sale. For those few classes of merchandise or departments where the direct capture of daily SKU data is not feasible, the user may wish to employ stock counts to derive periodic sales.

Appropriate documentation and interfaces are provided so that the Retail IMPACT Staple System can be used in conjunction with the customer's own stock counting procedures. Certain types of output, such as daily service measurement, cannot be provided if stock counting is employed.

Features -- An advanced forecasting subsystem which employs adaptive forecasting, probability and statistical science for determining trends and seasonal behavior, editing "bad" data, and handling high and low volume items ... initial forecasting "models" developed automatically from sales history, buyer estimates, or by adapting models taken from similar items ... automatic correction and signaling of significant variation in items sales patterns ... purchase order creation for forecasted items ... on-order control ... vendor lead time control by signaling irregular lead times or changes in lead time patterns ... comprehensive file maintenance to replace manual records ... source records available for additional reports ... continual system monitoring of service level, inventory investment and sales ... store performance report for each department ... simulation - before and after installation - for determining effects of alternative management policies.

Fashion System:

Description -- This system uses probability science to help the buyer respond quickly to styles performing significantly above or below other similar styles, based on their profitability. The maintenance of complete records at the style level eliminates tedious and sometimes inaccurate updating of manual records. Appropriate documentation and interfaces are provided for the user who wishes to maintain size and color detail. The combination of exception reporting and automatic maintenance of style records reduces the amount of clerical effort on the part of the buyer and his staff and enables them to achieve optimum results by concentrating on the creative aspects of fashion merchandising.

Features -- Automatic recommendations for re-order, return, markdown and transfers based on sophisticated statistical techniques which accurately analyze the potential of a style early in its life ... the basic yardsticks used for making recommendations are dynamic class (or group) standards, based on profitability (which reflects the interaction of turnover and markup) to respond to the over-all seasonal changes ... automatic maintenance of files to replace manual records at the style level ... status inquiry at buyer request (vendor status, etc.) ... various merchandise management reports can be created from the style master records (aging, stock status, etc.)

Use: These systems are designed to initialize and operate a complete department. The library programs do both the initializing and regular operation. The user does not have to write any programs to use the systems. However, the user may desire to modify the operational programs in the Staple Control Subsystem and Fashion reporting areas and will probably write additional programs to extend the reports produced by the system.

Additionally the user may wish to employ the Forecasting Subsystem to aid in developing seasonal forecasts as inputs to the planning process at the department and class level. Appropriate documentation and interfaces to the Forecasting Subsystem are provided.

Customer Responsibilities:

1. Program Requirements -- In general, the Staple and Fashion Systems are complete systems. However, since some users may have unique requirements in the way of significant transactions or reports, etc., some minor additions to the Retail IMPACT programs may be necessary. The following represent areas where user-generated programs may be required.

   Changes to existing outputs of Retail IMPACT -- as an example, a basic purchase order is provided as part of the Staple System. If the user desires his own purchase order format, a program must be provided by the user to print in his format from the files that contain the Retail IMPACT purchase order information.

   Additional merchandise management reports -- the user may wish to produce merchandise management reports beyond the basic reports provided by the Staple and Fashion Systems. The use of report generation techniques make the production of many additional reports feasible.

   Any modification to the standard Retail IMPACT programs -- as an example, any transaction unique to a particular user -- would require a user-written modification. Users of the Fashion System who desire complete Black Book replacement or maintenance of summary records, users of the Staple System who desire stock count inputs, and users who wish to employ the Forecasting Subsystem to aid in developing planning forecasts will need to write required I/O and file maintenance routines. Appropriate flowcharts and interfaces to the Staple Control Subsystem, the Forecasting Subsystem and the Fashion System are provided.

2. Staffing -- Capable user personnel are requisite to positive results. Needed to insure Retail IMPACT System benefits are Top Management Representative ... Project Director ... System Analyst ... System/360 Programmers ... and Clericals.

   The description of their qualifications and duties is detailed in the Application Description Manual (E20-0188).

3. Education -- Knowledge of the Retail IMPACT System, its implementation requirements, and its operation is achieved by user personnel through attendance in the following schools -- 2 1/2-day Executive Retail IMPACT System ... 5-day Retail IMPACT System Implementation - Fashion ... 10-day Retail IMPACT System Implementation - Staple.

4. Evaluation -- A very important responsibility of the customer is to establish a base for comparison of Retail IMPACT System results with those of the system replaced. Sales, inventory, and level of service represent minimum parameters for comparison. Further information regarding the need to evaluate and techniques for evaluation is detailed in the Application Description Manual (E20-0188).

Programming Systems: The programs are designed to operate under the OS/360, PL/I Level F; or DOS/360, PL/I.

Minimum System/360 Configuration for Fashion under OS/360 or DOS/360, PL/I and Staple under DOS/360, PL/I: System/360 Model F30 (65K) with Decimal Arithmetic (#3237), Floating Point Arithmetic (#4427), 1051 Attachment (#7915) ... 1051 Control Unit Model N1, 3130 CPU Attachment (#3130) ... 1052 Printer-Keyboard Model 8 ... 1442 Card Read Punch Model N1 ... 1443 Printer Model N1 with Selective Character Set (#6402) and the 63 Character Set Type Bar (#9089) ... 24 Additional Print Positions (#5558) ... 2841 Storage Control ... 2311 Disk Units (4 required) ... 2415 Tape Unit Model 1.*

*Users Operating the Fashion System who do not intend to implement "Black Book" replacement, summary files, or the Staple System will require one less disk or tape.

Minimum System/360 Configuration For Staple under OS/360, PL/I: System/360 Model G 40 (131K) with Decimal Arithmetic (#3237), Floating Point Arithmetic (#4427), 1052 Adapter (#7920) ... 1052 Printer-Keyboard Model 7 ... 1442 Card Read Punch Model N1 ... 1443 Printer Model N1 with Selective Character Set (#6402) and the 63 Character Set Type Bar (#9089) ... 24 Additional Print Positions (#5558) ... 2841 Storage Control ... 2311 Disk Units (4 required) ... 2415 Tape Unit Model 1.

Basic Program Material for 360A-DR-04X:

Publications -- Application Directory ... Program Description Manual* ... Operations Manual*.

Machine Readable** -- Source programs with narrative and sample problem decks are available on one 9-track DTR (800 or 1600 bpi) or on one 7-track DTR (800 cpi -- Data Conversion Feature required).

Optional Program Material for 360A-DR-04X:

Machine Readable** -- Flowcharts in print line images are available on one 9-track DTR (800 or 1600 bpi) or one 7-track DTR (800 cpi -- Data Conversion Feature required).

Ordering Procedure: See the DP Sales Activity section of the Branch Office Manual.

*Availability and form number will be announced in a Publications Release Letter.

**DTRs will be supplied by PID; no tape submittal is required. If the track density requirements are not specified on the back of the Program Order Card, 9-track at 800 bpi will be supplied.

Additional Program Support Material: Application Description Manual (E20-0188).

For further information contact your Industry Marketing - Distribution Representative.

FOR IBM INTERNAL USE ONLY

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System/360 Numerical Control Processors

CONTENTS

Numerical Control Processors

- AD-APT/AUTOSPOT Modification Level 1 Version 1 (360A-CN-09X) ... now available. (A)
- AD-APT/AUTOSPOT Version 2 ... to be available January 5, 1968. (B)
- AUTOSPOT Version 2 ... to be available January 5, 1968. (C)

Published by DP Sales Publishing Services, WTHQ

AD-APT/AUTOSPOT

Version 1 Modification Level 1 (A)

Version 1 Modification Level 1 of AD-APT/AUTOSPOT (360A-CN-09X), which includes general conic drive surface capability (availability announced in P67-99), is being distributed to all current users of the program. The general conic drive surface capability is described in the S/360 AD-APT/AUTOSPOT Part Programming Manual (H20-0375).

All customers affected by the above should be notified immediately.

For further information contact your Manufacturing Industry Marketing Representative.

Version 2 (B)

Eight additional features are to be included in Version 2 of AD-APT/AUTOSPOT (360A-CN-09X) which will be available on January 5, 1968. The new features include:

- A 'free-form' post processor language
- Additional computational functions
- Loop capability (LOOPND/LOOPST)
- Additional macro variables (50)
- Support of DOS File Protect feature
- Additional geometric definitions
- Copy logic (INDEX/COPY)
- Additional vocabulary words

Customers affected by these changes should be notified promptly.

The 'free-form' post processor language allows substantially more freedom in the use of post processor commands.

Additional computational functions (ANGLF, DISTF, SIGNF, INTGF, MAXIF and MINIF) assist the user in the computation of scalar values.

The LOOPST/LOOPND feature enables the user to repeat with modifications large sections of a part program, without having to specify a macro. Further, a loop definition, as opposed to a macro definition, does not require permanent disk storage.

Additional macro variables enable the user to specify very sophisticated macros. This feature is especially beneficial to lathe applications.

Support of the DOS File Protect feature inhibits the accidental destruction of users' data files and increases processor adaptability to a 'job-shop' environment.

The inclusion of five additional geometric definitions allows the user greater flexibility in defining geometric entities which are elementary in the AD-APT language.

The inclusion of copy logic enables the user to copy and/or modify large sections of tool path information, thus giving the AD-APT user an unprecedented transformation capability.

The addition of over 100 vocabulary words complements the 'free-form' post processor language capability, the CLFILE interpretation of which is identical to that of IBM System/360 APT.

See the sales manual page (P 360A.16) for Version 1 detailed information. The above information will be included in the sales manual at the time of Version 2 availability.

For further information contact your Manufacturing Industry Marketing Representative.

AUTOSPOT

Version 2 (C)

Six additional features to be included in Version 2 of AUTOSPOT (360A-CN-08X) will be available on January 5, 1968. The new features include:

- A 'free-form' post processor language
- A 'free-form' auxiliary section
- Support of DOS File Protect feature
- Additional geometric definition
- Copy logic (INDEX/COPY)
- Additional vocabulary words

Customers affected by these changes should be notified promptly.

The 'free-form' post processor language allows substantially more freedom in the use of post processor commands.

Support of the DOS File Protect feature inhibits the accidental destruction of users' data files and increases processor adaptability to a 'job-shop' environment.

The inclusion of an additional geometric definition allowing specification of points by polar coordinates.

The inclusion of copy logic enables the user to copy and/or modify large sections of tool path information, giving the AUTOSPOT user an unprecedented transformation capability.

The addition of over 100 vocabulary words complements the 'free-form' post processor language capability, the CLFILE interpretation of which is identical to that of IBM System/360 APT.

See the sales manual page (P 360A.16) for Version 1 detailed information. The above information will be included in the sales manual at the time of Version 2 availability.

For further information contact your Manufacturing Industry Marketing Representative.

John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS".

Release Date: November 30, 1967
Distribution: All Areas

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[8] References made to Engineering Change requirements should be verified with the local CE office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

IBM World Trade Data Processing

Program Announcement

IBM System/360

Document Processing System

The System/360 Document Processing System (360A-CX-12X) Version 1 Modification Level 0 is available. This application programming system has demonstrated capability for information retrieval. With this program, source documents or abstracts can be stored, indexed, and searched under program control. It functions under Operating System/360.

> Note: The schedule for Basic GIS and MT/TP GIS as announced in P67-48 is unchanged. (Basic GIS -- availability to be announced April 1968, MT/TP GIS -- availability to be announced September 1968.)

Generalized Application: The Document Processing System is designed especially to handle sentence-and-paragraph type text data, as exemplified by --

- Reports, proposals, specifications
- Excerpts from periodicals
- Laws and rulings or abstracts

This system is also applicable to the storage and retrieval of references to documents such as library catalogs, notations of content, or indexes (keywords, descriptors, or subject headings).

Description: The Document Processing System provides for the creation of document files by storing, in machine-readable form, either full text, abstracts, or keywords. The program generates a series of interrelated files which furnish direct access to each textword or keyword and the documents which contain them. A dictionary file provides control over the words available for searching. Contextual relationship is preserved by storing in the master file every word (in coded form) in the sequence in which it occurred in the input. This capability ensures high precision in answering queries. To assure a high level of retrieval of relevant documents, the Document Processing System optionally provides for the maintenance of a Synonym/Equivalents file which is designed to expand terms used by the search.

Where full text of a document or at least an abstract is available in machine-readable form, it may optionally be stored in a file and presented in answer to a query.

The system user directs operation of the application program through interpretive-language control statements and data statements. The prevention of unauthorized access to document files is a system-user's option. He also employs OS/360 Job Control Language to regiment Operating System services.

Additional Program Support Material: Availability and form number of the System Manual will be announced in a Publication Release Letter.

See the back for details.

Published by DP Sales Publishing Services, WTHQ

John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

Release Date: December 4, 1967

Distribution: All Areas

Document Processing System: Provides for the creation of document files by storing in machine-readable form either full text, abstracts, or keywords. The program generates a series of interrelated files which furnish direct access to each textword or keyword and the documents which contain them. A dictionary file provides control over the words available for searching. Contextual relationship is preserved by storing in the master file every word (in coded form) in the sequence in which it occured in the input. This capability ensures high precision in answering queries. To assure a high level of retrieval of relevant documents, the Document Processing System optionally provides for the maintenance of a Synonym/Equivalents file which is designed to expand terms used by the search. (360A-CX-12X)

Where full text of a document or at least an abstract is available in machine-readable form, it may optionally be stored in a file and presented in answer to a query.

Description: This application program converts input source records into three searchable files. The input record format must contain a unique and ever-increasing identification number (assigned by the user) and at least one alphameric text word. Optional fixed or variable length bibliographic (formatted) fields may be included in the input source record. The system compares, on a word basis, the contents of the narrative portion of the input record against a dictionary file containing acceptable terms obtained from previous processing. If the word already exists in this file, the unique identification number of the input record containing this alphameric word is placed in a Vocabulary File, as well as all successive input record numbers containing this specific word. Hence, if a given word occurred ten times in document #123 and 100 times in document #456, the Dictionary File would contain a single entry (for the given word) and an associated record in the Vocabulary file with document numbers #123 and #456. A third, or Master, file contains for each input record the contents of the bibliographic (formatted) fields as well as a coded representation of the narrative data so as to indicate to the program the relative location of each word within the narrative portion of the input record.

Two optional files can also be created: (1) an Auxiliary Text file, which stores, verbatim, the narrative, and (2) a Synonym/Equivalent file, which the user creates from the words or terms he frequently associates with those in the dictionary. With this facility, for example, a multi-language data base might be searched from an inquiry containing words from only one language.

Features:

- Data base creation using either full text, abstracts or index terms.
- Word and document frequency counts to improve search word effectiveness.
- Words occurring in the input can be eliminated from further processing by a variety of system options.
- Search expansion employing terms selected by user.
- Search precision by preserving context.
- Specialized search operators against bibliographic (formatted) fields: such as, between, mask, scan, and numeric operators.
- Search language easily learned.
- Printed index--search word and document frequencies, document cross references, and reference field and text listing by selected keyword.
- Search and output language allowing keyword (dictionary) parameters; sentence, paragraph, or positional separation restrictors; synonym, equivalents, or truncation expanders; reference field parameters; or logical combinations of parameters.

Use: As input, the program accepts user-defined documents composed of a sequential document number, bibliographic data, and narrative data. The program converts narrative data from all documents into alphamerically ordered search terms, creates a file accessing dictionary composed of the unique words of the set of documents, and stores a searchable representation of each document's original terminology and context. Moreover, the program stores reference data (bibliography and control number) as formatted fields within pertinent records containing document text representation. If full-text retrieval is elected as an installation option, the program also stores a verbatim copy of input documents. A user-generated exclusion table causes the system to purge common words; a user word edit further limits dictionary size and contents.

A user's search request accesses the dictionary with a Boolean combination of search terms possibly constrained by relative position indicators: word distance, sentence, paragraph. The request may also cite reference data as search criteria. The program then amasses and merges strings of document control numbers, reduces the candidate documents through a check of formatted reference fields, satisfies search-term-position criteria, and prints a bibliography of qualifying documents. A full-text printout is an installation option.

A search procedure can also employ synonymous/equivalent terms from two user-generated search-word-substitution lists. A special kind of search procedure - index list - produces various forms of topical listings based on the words contained in the dictionary.

Customer Responsibilities: All persons installing, operating, or maintaining the application program must have a working knowledge of Operating System/360.

A system user must convert his document source data into machine-readable records acceptable by the Document Processing System, for an I/O device supported by OS/360. Specifications for such input conditioning should be made as nearly universal as possible so that they apply to document holdings in many forms. The user's conversion specifications should particularly address word, sentence, and paragraph termination as employed in his current information holdings and as conventions to be adopted within the Document Processing System. Input conditioning must also format document reference data into field structures allowable within the system. The data format produced under input conditioning specifications must be described to the system one time via data base description procedures.

The system user should exercise the application program against a quantity of documentary data to familiarize himself with the system's operation and capabilities. Machine time will be minimized and procedural errors more quickly noted if the user prepares a relatively small set of documents as a test vehicle.

To ensure proper operation of the program with the intended set of documents, the user is responsible for providing adequate equipment and programming support as outlined below.

Programming Systems: The application program is written in the OS/360 Assembler Language. Operation of the Document Processing System hinges on the following OS/360 options and components:

Primary Control Program	360S-CI-505
Input/Output Support for BDAM	360S-DM-509
Utilities	360S-UT-506
Sort/Merge	360S-SM-023
Linkage Editor E	360S-ED-510

Minimum Machine Configuration: The Document Processing System requires OS/360 facilities for planned configurations. As a guideline, this application programming system requires a System/360 Model 2040G. The requirement for dynamic main storage is 44K bytes. In addition to OS/360 secondary storage requirements, a minimum of three IBM 2311's (or equivalent) is recommended. Peripheral devices needed include a card reader (for system generation), a tape station or printer (for output), and provision to sort the user's data sets. The allowance of 44K bytes for the Document Processing System satisfies the OS/360 SAM and BDAM requirements.

Basic Program Material:

Publications* -- Application Directory ... a combined Program Description and Operations Manual (H20-0477).

Machine Readable** -- The generation job stream object programs and sample-problem program are available on one 9-track DTR (800 or 1600 bpi) or one 7-track DTR (800 cpi - Data Conversion feature required).

Optional Program Material:

Machine Readable** -- Source statements and flowchart print lines available on one 9-track 2400' reel of magnetic tape (800 or 1600 bpi) or one 7-track 2400' reel of magnetic tape (800 cpi - Data Conversion feature required).

Ordering Procedure: See the DPD Sales Activity section of the branch office manual.

*If only the form numbered publication or if additional copies of the form numbered publications are required, order from the IBM Distribution Center, Mechanicsburg -- not PID.

**If the track and density requirements are not specified on the back of the program order card, 9-track at 800 bpi will be forwarded.

DTRs will be provided by PID; no tape submittal is required.

Magnetic Tapes (2400') may be forwarded or ordered (the order card should accompany the tape order form).

Additional Program Support Material: Application Description Manual (H20-0315) ... Systems Manual.

Reference Material: System/360 Operating System -- Utilities (C28-6586) ... System Programmer's Guide (C28-6550) ... Sort/Merge (C28-6543) ... Job Control Language Charts (C28-6632) ... Storage Estimates (C28-6551).

For further information contact your field system center.

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IBM World Trade **Data Processing**

Program Announcement

IBM 1130 Synchronous Communications Adapter Subroutines

Two new subroutines for Binary Synchronous Communications are now available. They are:

SCAT2 for point-to-point operation.
SCAT3 for multipoint operation.

These subroutines are included in Version 1 Modification 4 of the Subroutine Library, 1130-LM-001/002, for the 1130 Card/Paper Tape Programming Systems,

and

1130 Synchronous Communications Adapter Subroutine (BSC), 1130-LM-003/004, for use with the 1130 Disk Monitor System.

They meet the customer's basic programming requirements --

Provide standard BSC line control ...
Receive and Transmit data from program specified I/O areas ...
Allow the programmer to control transmitting, receiving, audible alarm, and disconnect in both SCAT2 and SCAT3; auto-answer in SCAT2, and monitoring in SCAT3 ...
Allow overlapped operation with other I/O devices.

SCAT2

Provides the functions to operate the Synchronous Communications Adapter in Point-to-Point mode between an 1130 and another 1130 with Synchronous Communications Adapter, or System/360 (Models 30, 40, 50, 65 67 (65 mode), 75) with a 2701 Synchronous Data Adapter Type II or a 2703 Transmission Control Unit with Synchronous Base I.

SCAT3

Provides the functions to operate the Synchronous Communications Adapter in Multipoint mode as a slave station and System/360 (Models 30, 40, 50, 65, 67 (65 mode), 75) with a 2701 Synchronous Data Adapter Type II or a 2703 Transmission Control Unit with Synchronous Base I.

System/360 program support is available in DOS/360 BTAM (see P67-121).

See the reverse side for performance and program material.

Minimum System and EC Level Requirements

For 1130 Card/Paper Tape Programming Systems - a 4K word 1131 Model 1 ... 1442 Card Read Punch Model 6 or 7, or 1134 Paper Tape Reader and 1055 Paper Tape Punch.

For 1130 Disk Monitor System - a 4K word 1131 Model 2 ... 1442 Card Read Punch Model 6 or 7, or 1134 Paper Tape Reader and 1055 Paper Tape Punch, or 2501 Card Reader and 1442 Card Punch Model 5.

The 1130 Computing System must be at least at level EC 419682. This is now included on systems shipped from the plant, and will be available for shipment by February 28, 1968, as a mandatory Field Bill for updating installed SCA's to include BSC.

Machine Features Utilized

Synchronous Communications Adapter (SCA).

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

John Fahey
Director of DP Marketing

Release Date: December 5, 1967

Distribution: All Areas

PERFORMANCE

1130 BSC Function	Approximate Processing Time, Microsecond (based on 3.6μ memory cycle)
SCAT2 (Call Processing)	
Test	189
Auto	293
Audible Alarm	263
Close	863
Receive Initial	682
Continue	623
Repeat	631
Transmit Block/Text Initial	783
Continue	682
Transmit End	607
SCAT2 (Interrupt Processing)	
Auto Answer	96
Write Response (Control)	
DLE	230
ACK	363
EOT of EOT	225
EOT of DLE EOT	837*
Write Response (Data)	
Normal Text	572
Transparent Text	605
Heading of Transparent Record	598
Read Response (Control)	
DLE	212
NAK	403
ACK	354
Read Response (Data)	663
Normal Text	550
Transparent Text	
Time Out	
Receive	372
Transmit	334
Transmit End	763*
ILS01 to SCAT2	97

SCAT2 Program Size - 1066 words

SCAT3 (Call Processing)	
Test	189
Monitor	655
Audible Alarm	263
Close	960
Receive Initial	726
Continue	678
Repeat	690
Transmit Block/Text Initial	860
Continue	777
Transmit EOT	602
SCAT3 (Interrupt Processing)	
Write Response (Control)	
DLE	207
ACK	366
EOT of EOT	194
Monitor Response (EOT or NAK)	97
Write Response (Data)	
Normal Text	579
Transparent Text	602
Heading of Transparent Record	568
Read Response (Control)	
DLE	226
NAK	418
ACK	368
Monitor Address	168
ENQ	225
Normal Text	306
Read Response (Data	
Normal Text	685
Transparent Text	575
Time Out	
Monitor	157
Receive	385
Transmit	333
ILS01 to SCAT3	97

SCAT3 Program Size - 1256 words

* includes Close

BASIC PROGRAM MATERIAL

1130 Subroutines Library -- 1130-LM-001 Card
1130-LM-002 Paper Tape

Current Users of 1130-LM-001/002 are being sent Version 1, Modification Level 4 automatically by the Program Information Department.

Publication -- Card/Paper Tape Programming System Operators Guide, C26-3629-1.

Documentation -- Basic Program Material List ... Attachment to Users (1130-LM-001 Only)

Machine Readable Material -- 1130-LM-001 is available in card form, 1130-LM-002 on seven (7) paper tapes.

1130 Synchronous Communications Adapter Subroutines (BSC -- 1130-LM-003 Card
1130-LM-004 Paper Tape

Publication -- 1130 Synchronous Communications Adapter Subroutines, C26-3706-3.

Documentation -- Basic Program Material List ... Attachment to Users.

Machine Readable Material -- 1130-LM-003 is available in card form, 1130-LM-004 on a single (1) paper tape.

ORDERING PROCEDURE

See DP Sales Activity Section of the Branch Office Manual.

If only the publications, or if additional copies are needed, order them from the IBM Distribution Center, Mechanicsburg not from PID.

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Published by Communication Control, DPD HQ

IBM World Trade Data Processing

67-137

Program Announcement

1800 TIME-SHARING EXECUTIVE (TSX) SYSTEM

Version 3, Modification Level 2 is now available [1800-OS-001]. It is being distributed to all current users automatically. In addition to the normal maintenance for APARs it includes added support for 1800 Systems with 24K words of core storage. At level 2, TSX is capable of operating on 1800 systems with 8, 16, 24, or 32K words.

Publication

TNL N26-0571 to IBM 1800 Time-Sharing Executive System Operating Procedures.

John Fahey
Director of DP Marketing

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS"

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Attachments [6]: [1 and 2] P 360A.1 and P 360A.3 ... [3] P 360N.9 ... [4 - 6] P 1130.7, P 1130.9 and P 1130.17.

Release Date: December 7, 1967

Distribution: All Areas

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IBM World Trade **Data Processing**

P67-138

Check List

DP SALES MANUAL -- PROGRAMMING SECTION

STATUS AS OF P67-138

To order missing pages, circle the page numbers of the required pages on this sheet, print or type your name and address in the block at the left, and send the form to

WT DP SALES PUBLISHING SERVICES

Most orders will be filled within ten working days, but allow thirty days for orders involving several pages.

	CIRCLE		
Index	1	Oct 67 Rev	P67-110
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	360A.31	Nov 67 Rep	P67-120
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s = supplement

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Attachments [6]: P 3, P 5, P 7, P 9, P 11, and P 19

Release Date: December 8, 1967

Distribution: All Areas

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DOS/360 - 2260 DISPLAY STATION ... QTAM now supports the local 2260, availability April 30, 1968. [C]

Published by DP Sales Publishing Services, WTHQ

OS/360 JOB SCHEDULER IMPROVEMENTS [A]

Three new operational improvements are included in the Job Scheduler:

[1] JCL Symbolic Parameter Capability –
Eliminates many of the user errors in preparing Job Control Language by providing techniques for symbolically modifying cataloged procedures.

[2] Conditional Disposition of Data Sets –
Provides alternate disposition to be made of data sets in case of abnormal job termination.

[3] Multiple Output Classes for PCP and MFT –
Provides a method of separating punch and printer outputs and providing job separator cards and pages automatically.

These three improvements will be available February 15, 1968. They are announced now to assist you in planning the necessary changes at an installation to utilize them. Detail description follows.

JCL Symbolic Parameter Capability

This capability enables the user to define in a symbolic manner those parameters in a cataloged procedure that are normally modified at execution time. A symbolic parameter may be one to seven alphameric characters, the first of which must be alphabetic. It is preceded by an ampersand in the cataloged procedure (e.g., VOLUME=SER=&NUM). A value is assigned to the symbolic parameter on the EXEC statement when the procedure is invoked. (e.g., NUM=123456).

A PROC statement has been defined to provide default values for symbolic parameters. This statement may be included as the first statement of a cataloged procedure. It is used to assign default values to symbolic parameters in the procedure which are not defined on the EXEC statement calling the procedure.

The new feature should minimize the syntax and ordering errors that frequently occur in overriding cataloged procedure JCL statements. This is because, in most cases, the use of symbolic parameters eliminates the need to override on a one-for-one basis. Where cataloged procedures have been designed using symbolic parameters, the user need not be intimately aware of the JCL in the procedure he is using. Normal customer usage of JCL is therefore greatly simplified. This reduces the number of reruns required because of JCL errors being made in this area.

Conditional Disposition of Data Sets

A third disposition sub-parameter is provided to improve control via JCL when an abnormal termination occurs. The conditional disposition is the disposition the data set will assume upon abnormal termination of a job step. It is expressed as the third sub-parameter of the DISP parameter on a DD statement. All dispositions except PASS are acceptable as the conditional disposition. Data set disposition processing during abnormal termination is not affected if conditional dispositions are not used. By making the disposition of data sets dependent on successful job execution, recovery from programming errors is facilitated. Data sets can be deleted for restart so that a duplicate data set is not found when the job is rerun. Alternatively, data sets which are required for job execution but which are to be deleted if the job is successful can be kept on abnormal termination to be available for a rerun of the job.

Multiple Output Classes in PCP and MFT

The inclusion of multiple output classes enhances the operational flexibility of the system by allowing the user to control the destination of SYSOUT data based on data type, device type, or on any other characteristic deemed meaningful in an installation. Up to seven additional output classes can be in use at any one time, thereby allowing SYSOUT data sets to be automatically routed by class to a particular type of device. For example, punch output across many jobs can be stacked on a single tape for subsequent punching in a peripheral operation, reducing operator intervention in this environment This operational improvement also provides in PCP and MFT the job separator feature currently available in MVT. On any SYSOUT data set, separators can be placed between the output of different jobs to facilitate the separation and routing of the output data.

Publications: OS/360 Job Control Language,* ... OS/360 Operator's Guide, C28-6540-4 ... OS/360 Supervisor and Data Management,* ... OS/360 Services, C28-6646 ... OS/360 Messages and Codes, C28-6631-2 ... OS/360 Utilities.*

An article will appear in the next Installation Newsletter giving more details.

*Availability will be announced in a future Publication Release letter.

DOS/360 QTAM - 2260 LOCAL [B]

DOS/360 Queued Telecommunication Access Method (QTAM) now supports the local 2260 Display Station. It opens the door to new application opportunities since a single access method can be used to support the local 2848-2260 Display Station along with the wide range of terminals previously supported. Availability -- April 30, 1968.

The 2260 local is designed primarily for inquiry type applications in which the operator enters an inquiry, and waits for a message processing program to construct and return a response message. When used for other types of operations, the application should be constructed in such a way as to avoid the destruction of input data by an unsolicited output message.

The local 2848-2260 Display Stations can be attached to a multiplexer or a selector channel of a S/360 Model 30, 40, 50, 65, 67 (in 65 mode) or 75. Other T-P devices can operate concurrently with the 2848-2260 local when attached directly to the multiplexer or a selector channel.

Reference:

System/360 Disk Operating System QTAM Message Control Program, C30-5004-1 and TNL N30-5019.

Minimum System Configuration:

64K bytes of main storage** ... standard instruction set ... storage protection ... one selector channel for system residence ... one multiplexer or selector channel for 2260-2848 complex ... one card reader* (1442, 2501, 2520, or 2540) ... one printer* (1403, 1404 or 1443) ... one 1052 printer-keyboard ... one 2311 or 2314 Disk Storage Device ... one 2848 Model 1, 2 or 3 Display Control ... one 2260 Model 1 or 2 Display.

*One 2400 series Magnetic Tape Drive may be substituted for each device. Reference: Page P360N.1 (May, 1967, Revision)

**The following example shows the approximate minimum core storage requirement for a DOS/360 QTAM system supporting eight 2260 local terminals in one line groups:

Program	Core Storage
DOS/360 Resident Control	8K
QTAM Message Control	14K
QTAM Message Processing	2K
Background	10K
	34K

Release Date: December 11, 1967

Distribution: All Areas

P67-139

SYSTEM/360 BASIC PROGRAMMING SUPPORT [C]

The programming support for the Binary Synchronous Communications (BSC) devices is now available in the Basic Tape System [360P-AS-091] as Version 1, Modification Level E (14).

Current users will receive this program automatically, including these new publications: BPS/BTS Assembler with I/O macros (Major Revision), C24-3355-5 ... TNL N24-5339 to BPS/BTS Programmers Guide, C24-3354-6 ... BPS/BTS Operators Guide (Major Revision), C24-3391-3 ... N24-5236 to BPS/BTS System Generation and Maintenance, C24-5061-1.

Features Supported: 2701 Synchronous Data Adapter - Type II (#7697, #7698, #7699) ... EBCDIC (#9060) ... Dual Communications Interface (#3463, #3464, #3465) ... Transparency (#8029) ... Autocall (#1314).

Minimum System Requirements: System/360 with 16K bytes or larger ... Card Reader ... Card Punch ... Printer ... 2701 SDA - Type II attached to a multiplexer/or selector channel ... Communications equipment necessary to interface to the communication line.

The Binary Synchronous Line Control functions provided are for:

Contention (Point-to-Point)
Headers and normal text
Inquiry and alternating replies
WABT (optional reply)
Full Transparent text
Dial with and without identification
Disconnect
Conversational

John Fahey
Director of DP Marketing

Note to World Trade Readers

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[3] When a new version of a program is announced current users must order it; they will not receive it automatically nor will they necessarily receive a prepunched request card in their Area.

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IBM World Trade Data Processing

67-140

Program Announcement

CLINICAL AND ADMINISTRATIVE RECORDS SYSTEM - ACCOUNTING SYSTEM (CARE A/S)

IBM is announcing support of hospital accounting functions on a System/360 Model 30E (32K) processing unit.

CARE A/S provides control and application programs including Patient Billing and Accounts Receivable. These accounting functions are provided for inpatients and outpatients.

CARE A/S, available September 16, 1968, further facilitates growth into on-line terminal operations. The CARE A/S is a non-Tele-processing version of the Patient Billing and Accounts Receivable applications in the Shared Hospital Accounting System (SHAS) available 2Q 68.

CARE A/S provides insurance proration including Medicare and facilitates the preparation of Medicare Inpatient and Outpatient billing forms. The design of CARE A/S provides for the easy addition of other accounting functions, clinical applications, and user-written programs.

Availability and form number of the Application Description Manual for the CARE Accounting System will be announced in a Publication Release Letter. Preliminary copies may be obtained from Regional Medical Industry Representatives.

See the back for details.

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

Release Date: December 13, 1967

Distribution: All Areas

P67-140

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Clinical and Administrative Records System Accounting System (CARE A/S): CARE A/S provides control programs and application programs for hospital accounting. The application programs are Patient Billing and Accounts Receivable. The accounting functions handle inpatients and outpatients.

The design of CARE A/S facilitates the addition of accounting applications, clinical applications, user-written programs, on-line terminals, and batching of multiple hospitals on one system.

The CARE A/S programs are designed to provide better administrative and operational control and reduce the ever increasing clerical workload associated with hospital accounting functions.

Description: The CARE Accounting system is a non-Tele-processing version of the Patient Billing and Accounts Receivable Applications in the Shared Hospital Accounting System (SHAS). Among the application functions is insurance proration including Medicare (facilitating the preparation of the Medicare inpatient and outpatient billing forms). CARE A/S facilitates the gradual upgrade to on-line operation (the Shared Hospital Accounting System mode of operation).

Features:

- The program design provides flexibility at the user's option to tailor the input and output for each application.
- CARE A/S provides the ability to specify a report by selecting and printing only records or class of records in which the hospital is interested for each reporting cycle.
- Backup and Reconstruction Procedures were designed into the system.

Patient Billing

Maintenance of admission files providing census, admission, discharge and transfer lists ... preadmission processing ... central pricing of hospital services ... charge posting ... recording cash payments ... preparation of patient bills (detail and summary) ... facilitate the preparation of Medicare billing forms ... daily balance forward ... insurance proration (including Medicare) ... printing of insurance statements ... automatic transfer to accounts receivable ... management statistics.

Accounts Receivable

Preparation of statements ... recording cash payments ... accounts receivable maintained on DASD or tape ... account validity check for receivables ... listing of accounts having balances due from each insurance company ... listing of accounts that fail to meet installment payments ... single statement for family billing ... bad debt reports.

Use: The CARE A/S is implemented by loading all application programs on disk storage. All transactions are entered in batch via cards. Output reports are prepared on the system high-speed printer. Data sets are originally established using hospital files. Daily reports are generated for control and reconstruction.

Customer Responsibilities: The data processing personnel must have a thorough understanding of the CARE A/S and DOS/360 prior to installation. The user must create all data for loading master files. Preprinted report forms must be made available. Customized input and output formats are to be specified by user modifications to COBOL subroutines.

Programming Systems: CARE A/S operates under the System/360 Disk Operating System (DOS/360). The application programs are written in Assembler Language and COBOL. Sort/Merge and Utility programs are also used.

Minimum Machine Configuration: A 2030 Processing Unit Model E (32K) with Decimal Arithmetic (#3237), Floating Point Arithmetic (#4427), Interval Timer (#4760), Selector Channel - 1st (#6960), Storage Protection (#7520) ... 1052 Printer Keyboard with appropriate attachments ... 2821 Control Unit Model 1 ... 1403 Printer Model 2 ... 2540 Card Read Punch Model 1 ... 2841 Storage Control Model 1 ... three 2311 Disk Storage Drives Model 1 ... one 2415 Magnetic Tape Unit and Control Model 1.

Program Support Material: Application Description Manual (availability and number to be announced in a Publication Release Letter).

Reference Material: Shared Hospital Accounting System (SHAS) Application Description Manual (H20-0302).

For further information contact your Regional Medical Industry Marketing Representative.

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IBM World Trade Data Processing 67-141 Program Announcement

System/360 Basic Operating System

BOS/360 Release 14, now available, includes the BOS VTOC display utility program which is part of the BOS Group 1 Utilities, 360B-UT-300. This program will be shipped under the phase name of LSVTOC in the relocatable library.

LSVTOC provides the user with a means of displaying the labels in the Volume Table of Contents from either a 2311 system pack or a 2311 data pack. Labels are identified by location within the VTOC. Format type and major fields are indicated by appropriate heading lines. Display time, assuming no I/O errors, is limited by the speed of the printer.

Minimum Machine Configuration

8K bytes of main storage ... one card reader (1442, 2501, 2520, or 2540) ... one printer (1403, 1404 (continuous forms only), or 1443) ... one 2311 Disk Storage Drive ... one card punch (1442, 2540, or 2520).

Complete ordering instructions and program material list are on the reverse side.

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

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Release Date: December 14, 1967

Distribution: All Areas

Basic Program Material

SRL Publications

The following SRL Publications appropriate to the components ordered are shipped by the Program Information Department (PID) with each initial BOS/360 order.

Basic Control Program (360B-CL-302), Consecutive Processing Macros (360B-IO-303), ISFMS Macros (360B-IO-304), Direct Access Macros (360B-IO-305), and STR Macros (360B-IO-310).

- System/360 Basic Operating System Specifications, Assembler with Input/Output Macros — C24-3361-5
  with TNLs N24-5314 and N24-5335
- System/360 Basic Operating System Control Programs and Assembler Operating Guide — C24-3450-2
  with TNLs N24-5132, N24-5161 and N24-5260
- System/360 Basic Operating System Programmers Guide — C24-3372-6
  with TNL N24-5336.
- System/360 Basic Operating System Operating Guide, Operator Messages — C24-5024-2
  with TNLs N24-5269, N24-5326, and N24-5325.

  Note: SRL C24-5024-1 plus TNLs N24-5116, N24-5155, N24-5168, N24-5187, N24-5269, N24-5325 and N24-5326 may be used in lieu of the SRL C24-5024-2 plus TNLs N24-5269, N24-5325 and N24-5326.
- System/360 Basic Operating System, System Generation and Maintenance — C24-5060-1
  with TNLs N24-5261, N24-5315, N24-5332 and N24-5338.

Utilities - Group 1 (360B-UT-300), and Utilities - Group 2 (360B-UT-301)

- System/360 Basic Operating System, Utility Programs Specifications and Operating Guide — C24-3409-3

1070 PCS (360B-SV-032)

- Basic Operating System/360 1070 Process Communication Supervisor — C26-5996-1
- System/360 Basic Operating System 1070 Process Communications Supervisor, Operating Guide — C26-3627-1

Autotest (360B-PT-306)

- System/360 Basic Operating System Specifications, Autotest (8K Disk) — C24-3378-2
  with TNLs N21-5011, N21-5041 and N21-5070

  Note: SRL C24-3378-1 plus TNLs N24-5015, N21-5011, N21-5041 and N21-5070 may be used in lieu of the SRL C24-3378-2 plus TNLs N21-5011, N21-5041 and N21-5070.
- System/360 Basic Operating System Operating Guide, Autotest (8K Disk) — C24-3452-3
  with TNL N21-5071

Report Program Generator (360B-RG-307)

- System/360 Basic Operating System Specifications, Report Program Generator (8K Disk) — C24-3387-4
  with TNLs N21-5060 and N24-5196

  Note: SRL C24-3387-3 plus TNLs N24-5159, N24-5174, N24-5196 and N21-5060 may be used in lieu of the SRL C24-3387-4 plus TNLs N24-5196 and N21-5060.
- System/360 Basic Operating System Operating Guide, Report Program Generator — C24-3453-1
  with TNL N21-5067

  Note: SRL C24-3453-2 plus TNLs N24-5052 and N21-5067 may be used in lieu of the SRL C24-3453-1 plus TNL N21-5067.

Sort/Merge (360B-SM-308)

- Basic Operating System/360 Operating Guide Sort/Merge Program (8K Disk) — C24-3454-0
- Basic Operating System/360 Specifications, Sort/Merge Program (8K Disk) — C24-3321-3
  with TNL N21-5045

Assembler (360B-AS-309)

- Basic Operating System/360 and System/360 Basic Programming Support - Macro Definition Language 8K Disk/Tape — C24-3364-3

Form numbers which have changed since previous release are underlined.

If only the publications or if additional copies of the publications are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

Documentation -- Program Material List and Attachment (Instructions to User)

Machine Readable -- BOS/360 is available on one 2400' reel of magnetic tape, 9-track at 800 bpi or 1600 bpi, or 7-track at 800 cpi (Data Conversion Feature Required), or on one 1316 Disk Pack.

The dumped disk pack data on the tape will be preceded by an Initialize 2311 Utility Program and a Tape to Disk Program. The operating instructions for creating the system pack from the tape are provided with the Program Material List.

Ordering Procedures

See DP Sales Activity section of the Branch Office Manual.

Magnetic Tapes (2400 foot) may be forwarded to PID or ordered. (The order card should accompany the tape or order form); disk packs must be forwarded to PID with the order form.

If the track and density requirements are not indicated on the back of the Program Order Card, 9-track at 800 bpi will be forwarded.

New Users -- Program components may be selected from the following list. Each component for which program documentation and maintenance material is required must appear on the order form.

The program components of BOS/360 are:

Basic Control Program	360B-CL-302 *
Utilities, Group 1	360B-UT-300 *
Utilities, Group 2	360B-UT-301
Consecutive Processing Macros	360B-IO-303
ISFMS Macros	360B-IO-304 *
Direct Access Macros	360B-IO-305
Autotest	360B-PT-306
RPG	360B-RG-307
Sort/Merge	360B-SM-308
Assembler	360B-AS-309*
STR Macros	360B-IO-310
1070 PCS	360B-SV-032

* Component changed from previous release

To order BOS/360, specify on the IBM Program Order for System/360 Operating Systems (120-1411) the Basic Control Program, 360B-CL-302, and each of the other components for which documentation and maintenance material is required. Documentation and maintenance will not be provided for components not listed.

All of the BOS/360 program components will automatically be included on the tape or disk pack containing 360B-CL-302 (those not needed may be deleted from from the system pack by the user.)

Current Users -- Current users will receive a prepunched Program Order Card and a letter announcing the availability of BOS/360 Release 14. The letter instructs them to order this release through the branch office. Current users must use the prepunched card to order either the Maintenance Package or the Replacement System for Release 14.

Orders for the Release 14 Maintenance Package should be accompanied by one 9-track magnetic tape or one 7-track magnetic tape (Data Conversion feature required). It is not available on Disk. Disk only users must order the Replacement System for Release 14.

Complete ordering instructions are provided in the letter to users.

The Maintenance Package will be available from PID for a period of 60 days following the announcement of availability of System Release 14.

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IBM World Trade **Data Processing**

Program Announcement

SYSTEM/360 PROJECT MANAGEMENT SYSTEM (PMS/360)

Version 1 Modification Level 1 of this application program (360A-CP-04X) is now available. The significant changes reflected by this modification are:

All reported program errors have been corrected. The speed of the 'PROCESS' step of the Network Processor has been significantly improved. The number of intermediate data sets required by this part of the Network Processor has been reduced by ten, thus reducing the Job Control Language Statements required. To improve performance, the maximum number of activities in a subnet that can be handled by the Network Processor in the minimum configuration has been changed from 2,000 to 1,000. Other configurations also will handle reduced number of activities per subnet as follows:

No. of Activities in the Subnet	Core Required by PMS/360	Peripheral Storage Byte Requirements
1000	44K	700K
3560	108K	2,492K
8680	236K	6,076K
18920	492K	13,244K
32000	1004K	22,400K

Any users who are affected by this change should be notified immediately.

Current users are being sent a letter announcing the availability of this modification. This letter is accompanied by a prepunched program order card that the customer must use to order Modification Level 1.

Please note that with this modification the User Manual has been updated, reprinted, and re-titled Program Description and Operations Manual (H20-0344-1). Updated documentation will be sent to customers ordering Modification Level 1.

In order to expedite delivery of the basic program material, the optional material has not been updated to Modification Level 1 and is being temporarily withdrawn. The availability of updated systems manuals (Y20-0083, Y20-0084, Y20-0085) and the flowchart tape will be announced by Program Announcement Letter.

See the attached Sales Manual page for detailed information.

For further information contact your Field System Center or Industry Marketing Representative.

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS".

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Published by DP Sales Publishing Services, WTHQ

John Fahey
Director of DP Marketing

Attachments [5]: P 360A.7, P 360A.19, P 360A.25, P 360A.27, P 1130.7
Release Date: December 18, 1967
Distribution: All Areas

P67-142

Note to World Trade Readers

This letter is a reprint of an IBM Programming Announcement and was mailed concurrently to USA and WT offices. The following changes, when appropriate, should be applied to the text for WT use.

[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

[2] Advance copies of the form numbered publications mentioned in the above either have been shipped (with additional copies available from the IBM Distribution Center, Mechanicsburg, Pennsylvania) or will be shipped when available. In the case of the later, availability will be announced in the Weekly DP Marketing Publications Release Letter.

[3] When a new version of a program is announced current users must order it; they will not receive it automatically nor will they necessarily receive a prepunched request card in their Area.

[4] If DTR distribution is indicated in the above, program distribution media may be different in your area based on local conditions.

[5] All references made to the Program Information Department (PID) should be understood to mean the appropriate WT Program Library.

[6] Any reference made to DPD Departments (or Regions) as sources of information or for manuals etc. should be understood to mean the comparable WT Department (or corresponding organizational level).

[7] Communications facilities or services may be required which are not offered in all WT countries. In case of any doubt as to the availability of suitable communications facilities, the country Teleprocessing Coordinator should be consulted.

[8] References made to Engineering Change requirements should be verified with the local CE office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

CONTENTS

1130 DISK MONITOR SYSTEM, VERSION 2...
now available with new features.

Published by DP Sales Publishing Services, WTHQ

IBM 1130 DISK MONITOR SYSTEM

Version 2 with its new features is now available. The features utilize:

- 2501 Card Reader
- 2310 Disk Storage Models B1 and B2
- 1442 Card Punch Model 5
- 1403 Printer
- 1231 Optical Mark Page Reader
- Core Memory improvements of 2.2μsec speed and expansion (16K and 32K)

Version 2 supports the new 1130 models and features announced in DP Letter 267-24, and is not considered a maintenance improvement.

In addition, certain components of the system are modified to provide improved facilities and/or performance. They are: Data Statement in FORTRAN, dynamic dump, faster loading of core image, programs, dump data directly from user area, extended assembler mnemonics.

Version 1 will continue to be available until November 15, 1968 to support 1130 Application Programs. Minimum system configurations required for application programs can be found in the appropriate pages of the sales manual. Information concerning operation of these programs with I/O devices not supported by Version 1 will be made available to Field Systems Centers by January 1, 1968.

Customers should be advised that some re-programming may be required for operation of existing programs under Version 2, and to enable judicious timing of their change over, Version 1 will be available until November 15, 1968.

Any 1130 Card/Paper Tape and Printer devices function as principal I/O devices for the Monitor system. In addition, the keyboard functions as an input device. I/O devices are available through subroutine support to both FORTRAN and Assembler language users, except the 1231 and Synchronous Communications Adapter, which are available only to Assembler language users.

Multiple disk drives allow the user to locate the IBM System Area, User Area, and Working Storage Area together or separately on any drive. Disk drive assignment and disk subroutines will provide maximum flexibility in the use of multiple disk drives.

Basic differences between the 1130 Disk Monitor System, Versions 1 and 2 are:

Lowest allowable origin with --

	Version 1		Version 2	
	Dec.	Hex.	Dec.	Hex.
DISKZ	450	/01C2	510	/01FE
DISKO	610	/0262	690	/02B2
DISK1	880	/0370	690	/02B2
DISKN	1080	/0438	960	/03C0

Note: All Version 2 disk subroutines provide multiple disk support and accommodate word counts exceeding 320. There is no DISKO Subroutine in Version 2; a LIBF to DISKO is interpreted as a LIBF to DISK1.

Version 2 does not allow an initial ORG to an odd location in mainlines that require DISKZ. An ORG to an even location followed by a BSS or BES of an odd number of words is equivalent to an ORG to an odd location.

Version 2 may require more core than Version 1, especially FORTRAN core loads.

The entire Resident Monitor, with the exception of CALL LINK and CALL EXIT Entry Points, IOCS Counter, and traps at 0028 and 002D, has been relocated. Certain parameters that were formerly in COMMA in Version 1 are in DCOM in Version 2.

The Core Image Header for disk core image format (DCI) has been revised and relocated.

The *FILE Assembler Control Record has been replaced by the pseudo-operation FILE. *FILE (not to be confused with the Supervisor Control Record *FILES) is not recognized in Version 2.

On a DUP DUMP using the 1442-6 or -7, blank cards following the punched cards are not selected to stacker 2.

Version 2 requires that all cartridges have a 4-character ID.

1130 Binary Synchronous (BSC)* capability, provided by two subroutines in the subroutine library, is not contained in Version 2. This capability will be made available with the first modification level update to the Version 2 system.

*Available as separate programs (1130-LM-003 Card, 1130-LM-004 Paper Tape), which can be ordered now and incorporated by the customer into the subroutine library.

Performance

The approximate assembler program speeds in statements per minute, assuming a 2.2 sec memory and that the monitor system and working storage are on different disk drives, are given in the following table:

	Input Device				
List Device	2501 Model A2	2501 Model A1	1442 Model 7	1442 Model 6	1134
1403 mdl 7	300	270	220	190	130
1403 mdl 6	230	200	170	150	110
1132	72	68	65	62	54
Console Printer	14	14	14	14	17
No Listing	500	410	300	240	160

The approximate time in minutes required to compile a 150-statement FORTRAN source program is given in the following table:

	Input Device				
List Device	2501 Model A2	2501 Model A1	1442 Model 7	1442 Model 6	1134
1403 mdl 7	1.8	1.8	1.9	2.0	2.7
1403 mdl 6	2.0	2.0	2.0	2.1	3.0
1132	3.8	3.8	3.8	3.8	3.8
Console Printer	7.2	7.2	7.2	7.2	7.2
No Listing	1.6	1.7	1.8	1.9	2.5

FORTRAN object program execution speed is dependent upon program type, size, I/O functions performed, and other factors pertinent to program execution speed.

The time required to load a sample 8K core load (disk core image format) varies from 1.5 to 4.0 seconds, depending primarily on the length of the User Area. The comparable figures for Version 1 are 4.5 and 10.0 seconds.

Release Date: December 15, 1967

Distribution: All Areas

P67-143

Minimum System Requirements

A 4K word 1131 model 2 ... and one of the following -- 1134 Paper Tape Reader and 1055 Paper Tape Punch ... 1442 Card Read Punch model 6 or 7, or ... 2501 Card Reader and 1442 Card Punch model 5 or 1442 Card Read Punch model 6 or 7.

Machine Features and Units Utilized

An 1131 model 2A, 2B, 2C, 2D, 3B, 3C, or 3D ... 1442-Card Read Punch model 6 or 7 ... 1442 Card Punch model 5 ... 1134 Paper Tape Reader and 1055 Paper Tape Punch ... Console Printer and Keyboard ... 2315 Disk Cartridges ... 1132 Printer ... 1627 Plotter model A1 or A2 ... 1403 Printer model 6 or 7 ... 2310 Disk Storage models B1 and B2 ... 1231 Optical Mark Page Reader ... Synchronous Communications Adapter.

Basic Program Material

1130-OS-005 (Card)

Documentation -- Program Material List ... Attachment to Users.

SRL Publication -- 1130 Disk Monitor System, Version 2, Programming and Operator's Guide (C26-3717).

Machine Readable -- Object decks and sample programs are available on one 2315 Disk Cartridge.

1130-OS-006 (Paper Tape)

Documentation -- Program Material List.

SRL Publication -- 1130 Disk Monitor System, Version 2, Programming and Operator's Guide (C26-3717).

Machine Readable -- One Paper Tape for each of the following -- System Loader, Part 1 ... System Loader, Part 2 ... Phase ID (PHID) Control Record ... Disk Utility Program ... FORTRAN Compiler ... Assembler ... Supervisor, Core Load Builder, System I/O, Core Image Loader ... End of System Tape Control Record ... Standard Precision LIBF and CALL Subroutines ... Extended Precision LIBF and CALL subroutines ... Common LIBF and CALL Subroutines ... ILS, ISS, Conversion and Utility Subroutines ... Plotter Subroutines ... SCA Subroutines ... Cold Start Paper Tape Record ... DCIP (Disk Cartridge Initialization Program) ... PTUTL (Paper Tape Utility Program) ... Paper Tape Reproducing Program ... 1132/1403 Printer Core Dump ... Console Printer Core Dump. Sample FORTRAN Program ... Sample Assembler Program.

John Fahey
Director of DP Marketing

Note to World Trade Readers

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[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

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IBM World Trade **Data Processing**

Program Announcement

System/360 Tape Operating Systems

Your customers can now order System Release 10 of TOS/360. Its new components, new features, additional support, and normal maintenance for APARs will contribute toward upgrading each user's installation. The highlights of these new developments are:

- On-Line Test Executive Program Availability
- 24K Incremental Memory Availability
- Basic PL/I - D Expanded
- Tape Label Simplification
- COBOL RERUN Clause

• ON-LINE TEST EXECUTIVE PROGRAM (OLTEP) 360M-DN-418

OLTEP together with associated on-line unit tests allows testing of System/360 I/O devices while operating under control of the TOS/360 supervisor. OLTEP is a monitor program that controls the execution of individual routines designed to test specific I/O units. It can be run either in a dedicated batch-only environment or in the background partition of a multiprogramming system. This allows the user to continue performing productive work during the running of I/O unit tests. Except for specific I/O units being tested, all units of the system remain available to the user.

Some of the advantages of OLTEP are:

. Increased system availability
. Improved serviceability
. Productive work (in foreground partitions) during servicing
. System checkout following maintenance

• 24K MEMORY SUPPORT FOR SYSTEM/360 MODEL 30

Program support is provided so that the TOS/360 can operate in the memory size of 24K. This intermediate storage size of 24,576 storage positions offers a better capability for the smaller core-size user to compile larger programs. He can more efficiently execute larger programs through a reduction in the number of overlays otherwise required in many cases when using a smaller core size. All programs currently designed to utilize extra core have been modified.

Engineering Change Levels

The following engineering change levels are prerequisite for proper functioning of TOS/360 with 24K of core storage.

2030 Hardware	EC	Level	-	126752
2030 Micro	EC	Level	-	128063

• BASIC PL/I 360M-PL-410

Basic PL/I-D has been extended to provide support for sterling picture character 6, 7, 8 and to provide source statement numbers in the pseudo-assembler listing of the object code to indicate the section of code produced for each source statement.

• TAPE LABEL SIMPLIFICATION

TOS/360 incorporates new features to provide simplified tape label processing. The improvements in the tape label processing include the following:

. Label Statement Cards may be used from day to day without change.
. Simplified Field Definition
. Variable Field Lengths
. Optional Fields
. VOL statements have been eliminated
. Only one statement required
. Current Label Statements are accepted
. Same Statements are usable for Input and Output files
. Processing of multi-volume files may begin on other than the first volume.

• COBOL 360M-CB-402

COBOL now includes the RERUN clause which enables the user to checkpoint his program periodically during its execution. It uses integer RECORDS. After the checkpoint has been executed, the user may restart his program using the TOS/360 restart procedures.

SYSTEM REQUIREMENTS

The minimum features required are the same as those required for TOS.

16K bytes of main storage (see Note 1) ... Standard Instruction Set ... One I/O channel (either multiplexer or selector) ... One card reader ... One card punch ... One printer ... One 1052 Printer-Keyboard ... four 2400 Series Magnetic Tape Units.

For further discussion of system configuration, see IBM S/360 TOS, System Control and System Service Programs, C24-5034-1.

The On-Line Test Executive Program requires space on the standard system resident device plus space on it for any unit tests to be run.

Note 1: Compilation of PL/I programs can be performed by a TOS/360 System with 16K main storage. However, most user object programs will require a 24K minimum memory. Object programs that can be executed in 16K are subject to limitations. For many programs, these limitations can be reduced by program segmentation through the use of overlays but this technique will result in performance degradation.

PROGRAM MATERIAL AND ORDERING PROCEDURES

See the reverse side.

John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

Release Date: December 15, 1967
Distribution: All Areas

Published by DP Sales Publishing Services, WTHQ

P67-144

Basic Program Material:

The following SRL publications and documentation appropriate to the components ordered are shipped by PID with each initial TOS/360 order. Machine readable material is distributed as indicated below.

SRL Publications --

System/360 Disk and Tape Operating Systems - Concepts and Facilities TNLs N24-5182, N24-5191, N24-5233, N24-5275, N24-5340.	C24-5030-2
System/360 Tape Operating System - System Generation and Maintenance	C24-5015-5
System/360 Tape Operating System - Performance Estimates	C24-5020-4
System/360 Tape Operating System - Operating Guide	C24-5021-3
System/360 Tape Operating System - System Control and System Service Programs TNL N24-5219, N24-5290, N24-5348	C24-5034-1
System/360 Tape Operating System - Supervisor and Input/Output Macros	C24-5035-3
System/360 Tape Operating System - Data Management Concepts	C24-3430-3
System/360 Disk and Tape Operating Systems - Assembler Specifications TNLs N26-0536, N26-0544	C24-3414-4 Note 1
System/360 Disk and Tape Operating Systems - Tape Sort/Merge Program Specifications	C24-3438-3 Note 2
System/360 Tape Operating Systems - Autotest Specifications TNLs N21-5054, N21-5074, N21-5080	C24-3441-3
System/360 Disk and Tape Operating Systems - Utility Program Specifications TNL N21-5063	C24-3465-3 Note 3
System/360 Disk and Tape Operating Systems - COBOL Language Specifications TNL N28-0240	C24-3433-4 Note 6
System/360 Disk and Tape Operating Systems - COBOL Programmers Guide TNLs N24-5264, N28-0221	C24-5025-3
System/360 Basic FORTRAN IV Language	C28-6629-0 Note 4
System/360 Disk and Tape Operating Systems - FORTRAN IV Programmers Guide TNLs N28-0218, N28-0569	C24-5038-1 Note 5
System/360 Disk and Tape Operating Systems - Report Program Generator Specifications TNLs N24-5195, N21-5058, N21-5055, N21-5082	C26-3570-4
System/360 Disk and Tape Operating Systems - Utility Macro Specifications TNLs N24-5184, N24-5268, N24-5318	C24-5042-1
System/360 Disk and Tape Operating Systems PL/I Programmers Guide TNL N33-9012	C24-9005-1
PL/I Subset Reference Manual	C28-8202-0
System/360 Disk and Tape Operating Systems, On Line Test Executive Program Specifications and Operating Guide	C24-5066-1

Underlined items denote changes from previous release.

Documentation -- Program Material List; Attachment I-Temporary Restrictions; Attachment II -- Retention of Supporting Documentation.

Machine Readable -- TOS/360 is distributed on one 2400 foot reel of magnetic tape, either 9-track (800 or 1600 bpi), or 7-track (800 cpi) Data Conversion feature required.

Ordering Procedures

If only the numbered publications or additional copies of the publications are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

New Users -- TOS/360 is distributed as -- one pre-generated system with a 6K Supervisor (360M-SV-413) ... or one pre-generated system with an 8K Supervisor (360M-SV-414).

Each TOS/360 order includes the entire collection of machine readable program components in both Core Image and Relocatable Libraries, listed below.

The System Control component and one of the two Supervisor components are required. To order these components, specify on the IBM Program Order for IBM System/360 Operating Systems [120-1411] -- System Control and Basic IOCS, 360M-CL-405 and Supervisor (6K), 360M-SV-413 or Supervisor (8K), 360M-SV-414.

One supervisor component should be specified when ordering the system. If not specified, the 6K Supervisor will be shipped.

Program components may be selected from the following list. Each component for which program documentation and maintenance material is required must appear on the order form.

Supervisor (6K)	360M-SV-413 or
(8K)	360M-SV-414
System Control	360M-CL-405 *
IOCS	360M-IO-404 *
MPS Utility Macros	360M-UT-411
Utilities	360M-UT-403 *
Tape Sort/Merge	360M-SM-400 *
Assembler	360M-AS-465 *
COBOL	360M-CB-402 *
FORTRAN IV	360M-FO-409
RPG	360M-RG-408 *
+ Compiler I/O Modules	360M-IO-412 *
Autotest	360M-PT-407 *
Optical Character Reader	360M-IO-417 *
PL/I	360M-PL-410
OLTEP	360M-DN-418 **

* Change from previous release
** Component new with this release
\+ Should be ordered if either COBOL (360M-CB-402) or RPG (360M-RG-408) is ordered.

If the distribution media is not specified on the IBM Program Order, 9-track tape at 800 bpi will be forwarded.

Magnetic tapes may be ordered or forwarded in accordance with current procedures as described in the DP Sales Activity Section of the Branch Office Manual.

Current Users -- Present users will receive a prepunched Program Order Card and a letter announcing the availability of System Release 10 and its Maintenance Package. This card, following IBM Branch Office approval, must be used to order either the Maintenance Package or a replacement TOS/360 from PID.

The maintenance package for TOS/360 system release 10 is available on one 2400 foot reel of magnetic tape, either 9-track (800 bpi or 1600 bpi), or 7-track (800 cpi, Data Conversion feature required.)

Complete ordering instructions are provided in the letter to users.

Maintenance Packages will be available from PID for a period of 60 days following the availability announcement of System Release 10.

Note 1: SRL C24-3414-2 plus TNLs N24-5057, N24-5076, N24-5107, N26-0516, N26-0520, N26-0533, N26-0536 and N26-0544, or SRL C24-3414-3 plus TNLs N26-0516, N26-0520, N26-0533, N26-0536 and N26-0544 may be used in lieu of the SRL C24-3414-4 plus TNLs N26-0536 and N26-0544.

Note 2: SRL C24-3438-1 plus TNLs N21-5021, N21-5036, N21-5042, N21-5050, N24-5064 and N24-5131, or SRL C24-3438-2 plus TNLs N21-5036, N21-5042 and N21-5050 may be used in lieu of the SRL C24-3438-3.

Note 3: SRL C24-5014-0 plus TNLs N21-5018, N24-5041 and N24-5069, or SRL C24-5014-1 may be used in lieu of the SRL C28-6629-0.

Note 4: SRL C24-3465-2 plus TNLs N21-5024, N21-5044, N21-5047 and N21-5063 may be used in lieu of the SRL C24-3465-3 plus TNL N21-5063.

Note 5: SRL C24-5038-0 plus TNLs N21-5034, N21-5053, N28-0218 and N21-0569 may be used in lieu of the SRL C24-5038-1 plus TNLs N21-0569 and N28-0218.

Note 6: SRL C24-3433-3 plus TNLs N24-5188, N28-0232, N28-0237 and N28-0240 may be used in lieu of the SRL C24-3433-4 plus TNL N28-0240.

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STATEMENT OF INTENT

IBM World Trade Data Processing

P 67-145

STATEMENT OF INTENT

SYSTEM/360 MODEL 20 BINARY SYNCHRONOUS COMMUNICATIONS ADAPTER

It is the intent of the IBM Corporation to support the System/360 Model 20 Binary Synchronous Communications Adapter (BSCA) via Communications Input/Output Control System (CIOCS) Programming Systems for Card, Tape and Disk configurations. The Model 20 BSCA-CIOCS supports communications between the Model 20 and other Model 20s equipped with a BSCA or larger models of System/360 systems equipped with 2701 or 2703 Binary Synchronous Communications capability. System/360 is supported by DOS/360 BTAM with BSC or OS/360 BTAM with BSC Programming Systems.

The Model 20 BSCA-CIOCS is intended to permit transmission in EBCDIC or ASCII code and transparent transmissions. Point-to-point operation on switched or leased communication networks and multi-point operation -- as a slave station -- on leased communication networks will be possible.

Intended minimum storage configurations required are: 8K for Card Systems and 12K for Tape and/or Disk Systems.

IBM now plans to provide additional information regarding Model 20 BSCA-CIOCS programming systems support by February 29, 1968. Information regarding availability of Model 20 BSCA-CIOCS will also be provided by February 29, 1968.

Additional information regarding DOS/360 BTAM with BSC and OS/360 BTAM with BSC support for communications with Model 20 BSCA-CIOCS will also be provided by February 29, 1968.

This information represents the technical intent of IBM with respect to this program. It is possible that the objective will not be met. The program is subject to revision or withdrawal, and no commitment or warranty is expressed or implied.

Statements of Intent P67-54 and P67-55, which indicated a planned availability date of November 15, 1968, are superseded by this release.

Guidelines for using the Statement of Intent appear on the reverse side.

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

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Cancels: P67-54 and 55
Release Date: December 19, 1967
Distribution: All Areas

Statement of Intent Guidelines

You must insure that:

1. In any discussions with customers or prospects on intent information, the IBM representative makes clear to the customer that intent information represents only technical objectives and does not constitute any announcement of a programming system.

2. All proposals or installation planning discussions with customers or prospects on intent information must be documented to the customer. The following disclaimer must appear in this or any other documentation on intent information:

   "This information represents the technical intent of IBM with respect to this program. It is possible that the objectives will not be met. The program is subject to revision or withdrawal, and no commitment or warranty is expressed or implied."

   The proposal section containing the Statement of Intent must be entitled "Statement of Intent".

   The description of the Statement of Intent which precedes the disclaimer must contain no omissions or rephrasing of the information contained in the DPD HQ Statement of Intent release that could result in misrepresentation to the customer.

   The following sentence should be included after the disclaimer: "It should be clear that this Statement of Intent is not a Program Announcement and that a Program Announcement may or may not be forthcoming."

3. Orders secured from proposals in which intent information appears must contain installation plans not dependent upon the technical objectives or target schedules embodied in a Statement of Intent.

4. Installations having an interest in and probable use for the intent support must have that fact documented in the Installation Information System. The Program Planning form should be used to record the index numbers of the Statement of Intent (obtained from monthly IBM Program Support Master List). The required date for firm specifications should be entered in the Test Date column and the required availability date in the Install Date column.

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SYSTEM/360 MODEL 20 TAPE PROGRAMMING SYSTEM [A]

Version 2, which includes the Tape Error Statistics, is now available.

Tape Error Statistics

The addition of the Tape Error Statistics to System/360 Model 20 TPS provides the user with the option to determine the total activity on each physical tape unit and the number of errors encountered.

This provides the necessary statistics for both systems repair and preventive maintenance.

Example of Tape Error Statistics printout.

TAPE ERROR STATISTICS

PHYS. UNIT	TOTAL NUMB. OF REQUESTS	READ ERROR	UNRECOVER READ ERROR	NOISE REC	WRITE ERROR	ERASE GAPS
80	320	0	0	0	0	0
81	100	12	3	6	0	0
82	752	0	0	0	0	0
83	110	0	0	0	1	1

Units 84 and 85 were not used and no TES were printed for these devices.

Tape Error Statistics may be operated with the following Model 20 TPS programs:

TPS Utilities: Tape-to-Tape (360U-UT-131)
Tape-to-Card (360U-UT-132)
Card-to-Tape (360U-UT-133)
Tape-to-Printer (360U-UT-134)

TPS Sort/Merge Program (360U-SM-150)

Tape Error Statistics reside in the upper 280 bytes of core storage. User programs must leave this area free if TES is to be used.

User programs written in TPS Report Program Generator (360U-RG-148). When TES is to be used, user programs must specify TES in the RPG control card.

User programs written in TPS Assembler/IOCS (360U-AS-149, 360U-IO-151 resp.). When TES is to be used the EOJ routine must be executed.

Customers should be advised of the advantages (i.e. increased system availability, better throughput, etc.) gained by the inclusion of Tape Error Statistics in their data processing operation.

If possible all user programs should be compiled to include this new program capability.

Packaging

The packaging of the Model 20 TPS programs for distribution has changed from 1 (or 2 DTRs) to a full 2400 ft. tape reel.

The basic machine readable material of all TPS programs will now be available on one 2400 ft. tape reel. Thus program number 360U-IO-152 (Input/Output Macro Definitions for the IBM 1419 MICR) will no longer be distributed on a separate DTR.

Minimum System Requirements

The addition of Tape Error Statistics does not change the minimum system requirements.

Basic Program Material available from PID consists of:

Publications -- System/360 Model 20 Tape Programming System Operating Procedures, C24-9009-1 ... System/360 Model 20 Tape Programming System Performance Estimates, C24-9010 and TNLs N33-9005, N33-8518 ... System/360 Model 20 Basic Assembler Language, C26-3602-3 and TNL N33-8511 ... System/360 Model 20 Basic Assembler (Tape) Operating Procedures, C24-9011-1 ... System/360 Model 20 Tape Programming System Utility Programs, C26-3808-2 ... System/360 Model 20 Tape Programming System Control and Service Programs, C24-9000-2 ... System/360 Model 20 Disk and Tape Programming Systems Report Program Generator, C24-9001-2; and TNL N33-9007 ... System/360 Model 20 Disk and Tape Programming Systems Assembler Language, C24-9002-2 ... System/360 Model 20 Tape Programming System Sort/Merge Program, C26-3804-1 and TNL N33-8519 ... System/360 Model 20 Tape Programming System Input/Output Control System, C24-9003-1 and TNLs N33-9004, N33-8508 ... System/360 Model 20 Disk and Tape Programming Systems, Input/Output Control System for the 1419 Magnetic Ink Character Reader, C33-6001-1.

Documentation -- Program Material List and Attachment.

Machine Readable -- All programs are available on one 2400' magnetic tape at 9-track 800 or 1600 bpi, or 7-track 800 cpi (Data Conversion feature required).

A bootstrap card is also supplied.

Ordering Procedure

DP Sales Activity Section of the Branch Office Manual.

If only the publications or if additional copies are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

If the track and density requirements are not indicated on the back of the program order card, 9-track at 800 bpi will be forwarded.

Magnetic Tapes (2400') may be forwarded to PID or ordered. The order card should accompany the tape order form .

Current users will receive a prepunched program order card and a letter announcing the availability of the new version, and instructing them to order the new version through the branch office. This card must be used to order the new version.

SYSTEM/360 MODEL 20 DISK PROGRAMMING SYSTEM [B]

Please refer to P67-126, Report Program Generator, Item B and delete Models BC1 and D1 of the 2020 Central Processing Unit from the paragraph titled "Object Program Execution." Those models should not have been shown.

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS"

John Fahey
Director of DP Marketing

CONTENTS

SYSTEM/360 MODEL 20 TAPE PROGRAMMING SYSTEM ... Version 2 is now available. [A]

SYSTEM/360 MODEL 20 DISK PROGRAMMING SYSTEM ... Correction to P67-126. [B]

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: December 19, 1967
Distribution: All Areas

Note to World Trade Readers

This letter is a reprint of an IBM Programming Announcement and was mailed concurrently to USA and WT offices. The following changes, when appropriate, should be applied to the text for WT use.

[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

[2] Advance copies of the form numbered publications mentioned in the above either have been shipped (with additional copies available from the IBM Distribution Center, Mechanicsburg, Pennsylvania) or will be shipped when available. In the case of the later, availability will be announced in the Weekly DP Marketing Publications Release Letter.

[3] When a new version of a program is announced current users must order it; they will not receive it automatically nor will they necessarily receive a prepunched request card in their Area.

[4] If DTR distribution is indicated in the above, program distribution media may be different in your area based on local conditions.

[5] All references made to the Program Information Department [PID] should be understood to mean the appropriate WT Program Library.

[6] Any reference made to DPD Departments (or Regions) as sources of information or for manuals etc. should be understood to mean the comparable WT Department (or corresponding organizational level).

[7] Communications facilities or services may be required which are not offered in all WT countries. In case of any doubt as to the availability of suitable communications facilities, the country Teleprocessing Coordinator should be consulted.

[8] References made to Engineering Change requirements should be verified with the local CE office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

IBM World Trade Data Processing 67.147 Program Announcement

Mathematical Programming System/360

MPS/360 Version 2 Modification Level 0 is available. (360A-CO-14X)

Version 2 contains the following new capabilities:

- Separable Programming - A Mathematical Programming technique for the solution of models containing certain types of non-linear variables within a normal Linear Programming framework.
- Additional Device Support - New devices supported by MPS/360 are the 2302, 2303, 2314 Direct Access Storage Devices and 2400 Series Tape Units Models 4, 5, and 6.
- New Procedure - A new procedure, PROBLEMS, lists the names and identifying information of all problems on a problem file.

The MPS/360 Linear Programming User's Manual (H20-0291-1) has been replaced by the MPS/360 Linear and Separable Programming User's Manual (H20-0476).

Current users of the program will receive a prepunched program order card and a letter announcing the availability of the new version. The letter instructs the users to order the new version through the branch office. Current users must use this prepunched program order card to order the new version.

Inform your customers that support for the 7340 Hypertape Drive announced in P64-201 is withdrawn.

See the attached sales manual page (P 360A.30) for more details.

For further marketing information contact your Regional Scientific Marketing Manager. For installation assistance contact your Field Systems Center Manager.

John Fahey
Director of DP Marketing

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS".

Published by DP Sales Publishing Services, WTHQ

Attachments [5]: P 3, P 360A.29 thru P 360A.35

Release Date: December 22, 1967

Distribution: All Areas

P67-147

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Note to World Trade Readers

This letter is a reprint of an IBM Programming Announcement and was mailed concurrently to USA and WT offices. The following changes, when appropriate, should be applied to the text for WT use.

[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

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[3] When a new version of a program is announced current users must order it; they will not receive it automatically nor will they necessarily receive a prepunched request card in their Area.

[4] If DTR distribution is indicated in the above, program distribution media may be different in your area based on local conditions.

[5] All references made to the Program Information Department (PID) should be understood to mean the appropriate WT Program Library.

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[7] Communications facilities or services may be required which are not offered in all WT countries. In case of any doubt as to the availability of suitable communications facilities, the country Teleprocessing Coordinator should be consulted.

[8] References made to Engineering Change requirements should be verified with the local CE office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

IBM World Trade Data Processing

P67-148

Program Announcement

SYSTEM/360 TELE-PROCESSING ANALYSIS AND DESIGN PROGRAM (TPAD)

The IBM CONFIDENTIAL program, Tele-processing Analysis and Design, previously announced for availability 4Q 67 (P66-99) will be available June 28, 1968. Two new and significant features, which were not previously announced, will be available in the program. These new features are:

- The capability to compute message turnaround time.
- A TPAD library which will initially contain system characteristics of the Operating System/360 (MFT). These system characteristics will include the supervisor, data management, and Queued and Basic Telecommunications Access Methods (QTAM/BTAM). The library addition, when selected, automatically provides the detailed timings and logic of the mentioned control programs, thus eliminating the necessity of the user having to calculate individual timings.

In addition, TPAD will contain the following previously announced features:

- Configurate a Telecommunication System using System/360 hardware that consists of one CPU which can be either Model 2030, 2040, or 2050.
- Allow for one multiplex channel and up to three selector channels in the system.
- Analyze performance of user defined message control programs operating in a real time environment.
- Handle messages of the following types -- inquiry, data collection, and message switching.
- Configure and assign the Direct Access Devices by providing performance analysis for several device types.
- Provide File Layout for the Direct Access Devices by equalizing thruput and space utilization on each device.
- Design buffer pool for telecommunications dynamic buffering.
- Provide general performance characteristics. Provide channel interference statistics.

TPAD will be an effective tool to aid in the design, selection, and evaluation of the Processing Center for a telecommunication-oriented system. The program is based on mathematical formulas and algorithms which analyze and design significant elements of the Processing Center. The inclusion of message turnaround time and OS (MFT) in the library will make TPAD a more effective system design tool to assist the systems engineer in the sale and installation of Tele-processing systems. A new Application Description Manual (Z20-1812-1), which defines the program and its new features, is available.

For details see the back.

John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

Release Date: December 29, 1967
Distribution: All Areas

FOR IBM INTERNAL USE ONLY

SALES MANUAL TEXT

Tele-processing Analysis and Design Program (TPAD): An IBM Confidential program. It will provide an effective tool to aid in the design, selection, and evaluation of the Data Processing Center of a telecommunication system. The program includes System/360 hardware and programming systems design data and uses mathematical approximations to aid in the evaluation of System/360 configurations that will conform to stated customer Tele-processing performance requirements.

Description: The program is based on mathematical formulas and algorithms which analyze and design significant elements of the Data Processing Center of a telecommunication system. TPAD evaluates alternative selections of hardware and the programming systems support for a particular customer system requirement.

The program provides results quickly and with a minimum of effort by the user. Given alternative configurations, the results produced by TPAD will provide the user with sufficient information to determine if a configuration is feasible, which is the best configuration, and identifies critical areas.

TPAD's library contains systems characteristics of the OS/360 MFT system. This will include the supervisor, data management, and QTAM/BTAM characteristics which pertain to Tele-processing systems. With TPAD the user will only be required to specify the macros needed to describe his Tele-processing problem and programs and the parameters needed to describe the processing requirements of the system. The user does, however, have the option of redefining the programming support by specifying additional information.

Features: Will evaluate a Tele-communication System using System/360 hardware that consists of one CPU which can be either Model 2030, 2040, or 2050 . . . will allow for the multiplex channel and up to three selector channels in the system . . . will analyze performance of user-defined message control programs operating in a real time environment . . . will have a library which contains the characteristics of OS/360 MFT's supervisor, data management and QTAM/BTAM . . . will calculate message turnaround time for all message types . . . can handle messages of the following type: inquiry, inquiry update, data collection, and message switching . . . will configure and assign the auxiliary storage devices on the channels . . . will aid in the selection of the Direct Access Devices by providing performance analysis for several device types . . . will provide File Layout for the Direct Access Devices by equalizing thruput and space utilization on each device . . . will provide channel interference statistics . . . will provide basic data required in the design of buffer pool (for the queued request scheme) . . . will provide general performance characteristics.

Special Sales Information: When ordering the program (available June 28, 1968) a letter from the Field System Center must accompany the program order request to PID stating that your office has adequately trained and experienced people in the use of the program. A copy of this must be forwarded to the Manager of Department H04, Building 850, P.O. Box 390, Poughkeepsie, New York 12602. He in turn approves the program request and acknowledges to PID who would then proceed to ship the program. TPAD is an aid to the system engineer in the design of the Data Processing Center of a Tele-processing system. The results from the program, however, should be used with discretion.

User Responsibilities: The TPAD program must be cataloged into the core image library of the system. The user must know the input design data needed for TPAD and keypunch this information into cards according to a specific format. The program is then called directly from the library by use of the execute card.

Programming Systems: TPAD is written in FORTRAN language with the exception of one routine which is written in the Assembly language. The program will operate under the control of the DOS/360.

Minimum System Requirements: 128K System/360 Model 2040G with the Universal Instruction Set, 1442 or 2540 Card Read Punch, 1443 or 1403 Printer, and one 2311 Disk Drive.

Program Support Material: Application Description Manual (Z20-1812).

For further information please contact your Field System Center.

Note to World Trade Readers. This is a reprint of an IBM P-Letter and was mailed concurrently to USA and WT offices. The following changes should be applied to the text for WT use. [1] Programs announced as available have been shipped to WT Program Libraries. Programs may be ordered as indicated on pages 9013-9017, PGM, Sec., WT DP Sales Manual. [2] Advance copies of form numbered publications mentioned above have been shipped or will be, when available. Availability will be announced in the Weekly Publications Letter. [3] When a new version of a program is announced current users must order it; they will not receive it automatically. [4] If DTR Distribution is indicated above, program distribution media may differ based on local conditions. [5] References made to PID means the appropriate WT Program Library. [6] Any reference made to DPD Depts. (or Regions) as sources of information means the comparable WT Dept. (or corresponding organizational level). [7] Communications facilities may be required which are not offered in all WT countries. In case of doubt as to availability of suitable facilities, consult the country TP Coordinator. [8] References made to Engineering Changes required should be verified with the local CE Office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.

IBM World Trade Data Processing

P67-149

Program Announcements

CONTENTS

Retail IMPACT Systems ... more specific date for OS/360 Staple System and availability dates for the DOS/360 Staple and Fashion Systems. (A)

Medical Information System Programs (MISP) ... available under a controlled release plan. (B)

Published by DP Sales Publishing Services, WTHQ

RETAIL IMPACT SYSTEM (A)

This announcement closes the open availability dates for the DOS/360 Retail IMPACT Staple and Fashion Systems announced in P67-14. It also describes changes to the release plan and configuration of the DOS/360 Staple System. The availability date for the OS/360 Staple System is changed to be more specific.

The OS/360 Fashion System (360A-DR-04X) was announced in P67-133 as being currently available from PID.

The OS/360 Staple System availability date announced in P67-107 is changed from 1Q 1969 to January 2, 1969.

The DOS/360 Fashion System will be available June 28, 1968.

The DOS/360 Staple System will be released in two versions.

Version 1 will contain the Control Subsystem and will be available January 15, 1969. The Control Subsystem will be operable on a System/360 Model F30 (65K).

Version 2 will contain both the Control Subsystem and the Forecasting and Simulation Subsystems. It will be available April 30, 1969. Version 2 will supersede Version 1. The Forecasting and Simulation Subsystems previously announced to operate on a System/360 Model F30 (65K) will now require a System/360 Model G40 (131K).

Customer Alternatives:

1. System/360 Model 30 (65K) users can achieve the benefits of automatic reorder and computerized record keeping by operating the Staple Control Subsystem as a "stand alone" system using order points and order-up-to-levels established by department buyers. The Control Subsystem is designed to operate with order points and order-up-to-levels supplied either by store personnel or by using the Forecasting and Simulation Subsystems.
2. System/360 Model F30 (65K) users desiring additional Staple System benefits may wish to periodically operate the Simulation and Forecasting Subsystems on a System/360 Model G40 (131K) to obtain scientifically determined order points and order-up-to-levels. These parameters can then be utilized by the Control Subsystem operating at the user's System/360 Model F30 (65K) installation.
3. System/360 Model G40 (131K) users will be able to operate both the Staple Control Subsystem and the Forecasting and Simulation Subsystems at their own installation. Prior to the availability of the DOS/360 Forecasting and Simulation subsystems, users operating the DOS/360 Control Subsystem on a Model 30 or 40 may also wish to utilize the OS/360 version of the Forecasting and Simulation Subsystems on a Model 40.

Customers affected by these changes must be notified promptly. For complete details see the following pages.

MEDICAL INFORMATION SYSTEM PROGRAMS (MISP) (B)

The Medical Information System Programs (MISP) are available and may be ordered directly from Medical Industry Marketing under the controlled release plan announced in Program Announcement P67-128. Changes to this plan will be stated by December 1968.

Sites with an installed or on-order configuration required by the MISP and an installation plan approved by DPD Medical Industry Marketing are eligible to obtain the announced programs for installing. These hospitals, using MISP to install a HIS in 1968, will be considered in field test status and will receive special IBM support. MISP programs and documentation will be offered only after a written agreement has been signed between the customer and the IBM branch office (a sample agreement can be obtained from DPD Medical Industry Marketing, GEM HQ, Washington, D.C.). No customer commitment may be made relative to this program before written acceptance by Medical Industry Marketing of the proposed candidate account.

In addition to the programs and functions previously announced, a set of system utilities are provided with the programs. These programs assist the user in loading the information that describes his system for the MISP Executive and user application programs. The number and scope of library programs are also expanded to include general purpose routines to move, manipulate and convert data for the application programmer.

See the following pages for more details.

John Fahey
Director of DP Marketing

Note: This is the last Program Announcement Letter for 1967.

FOR IBM INTERNAL USE ONLY

Release Date: December 29, 1967
Distribution: All Areas

Retail IMPACT System: Retail IMPACT is a total inventory management system designed specifically for the Retail Industry. Two Independent systems are provided: one applies to staple merchandise and the other, to fashion. These two systems enable retail management to increase the opportunity for sales by increasing the availability of merchandise and at the same time to maintain a balanced inventory consistent with management objectives. They also provide for effective highlighting of items requiring action to maximize the profit potential in a department.

Availability of the Retail IMPACT Systems:

OS/360 Version

- *Retail IMPACT Fashion System* — Available (360A-DR-04X)
- *Retail IMPACT Staple System (Control, Forecasting, & Simulation Subsystems.)* — January 2, 1969

DOS/360 Version

- *Retail IMPACT Fashion System* — June 28, 1968
- *Retail IMPACT Staple System*
  - (a) *Version 1 - Control Subsystem (65K) only.* — January 15, 1969
  - (b) *Version 2 - Control Subsystem (65K) plus Forecasting (131K) and Simulation (131K) Subsystems.* — April 30, 1969 (will supersede Version 1)

Staple System:

Description -- This system uses an advanced forecasting subsystem which employs adaptive forecasting, probability and statistical science with appropriate decision rules to forecast demand, determine order points, and order up to levels. An advanced control subsystem is provided tailored to the needs of the retail industry which creates purchase orders, controls merchandise on order, and monitors the performance of the system in terms of inventory and level of service.

This system also provides for the simulation of a number of management policies, as well as for projecting demand and inventory behavior over an extended period, resulting from a particular policy or set of policies. With this feature, management will be able to establish a priority for departments to be implemented and obtain an estimate of the system's potential in these departments. The system reduces the difficulty of maintaining large inventories in multiple locations, typical of today's retail industry. For the first time retail management can achieve the highest possible level of service for a specific level of inventory.

Optimum use of the system is achieved through the capture of daily sales information at the point of sale. For those few classes of merchandise or departments where the direct capture of daily SKU data is not feasible, the user may wish to employ stock counts to derive periodic sales.

Appropriate documentation and interfaces are provided so that the Retail IMPACT Staple System can be used in conjunction with the customer's own stock counting procedures. Certain types of output, such as daily service measurement, cannot be provided if stock counting is employed.

Features -- A comprehensive Control Subsystem which provides for automatic reorder of forecasted items and items with ordering parameters specified by store personnel ... purchase order creation ... vendor lead time control by signaling irregular lead times ... generalized transactions which allow for file updating for a group of items with only one input transaction for size, color, style, store and/or department ... source records available for additional reports ... continual system monitoring of service level, inventory investment and sales ... store performance report for each department.

An advanced Forecasting Subsystem which employs adaptive forecasting, probability and statistical science for determining trends and seasonal behavior, editing "bad" data, and handling high and low volume items ... initial forecasting "models" developed automatically from sales history, buyer estimates, or by adapting models taken from similar items ... automatic adjustment of forecasting models, weighted according to currentness of data ... signaling of significant variation in items sales patterns ... scientifically determined decision rules based on forecasted sales, desired level of service, pack size, etc. ... forecast model by item, or by group of items.

An advanced Simulation Subsystem which determines the effects of alternative management policies--before and after installation ... the ability to anticipate the inventory status at specified intervals during the year, number and value of purchase orders placed, and expected level of service ... analysis of vendor lead times including average, deviations, correlations with quantity ordered and season.

Fashion System:

Description -- This system uses probability science to help the buyer respond quickly to styles performing significantly above or below other similar styles, based on their profitability. The maintenance of complete records at the style level eliminates tedious and sometimes inaccurate updating of manual records. Appropriate documentation and interfaces are provided for the user who wishes to maintain size and color detail. The combination of exception reporting and automatic maintenance of style records reduces the amount of clerical effort on the part of the buyer and his staff and enables them to achieve optimum results by concentrating on the creative aspects of fashion merchandising.

Features -- Automatic recommendations for re-order, return, markdown and transfers based on sophisticated statistical techniques which accurately analyze the potential of a style early in its life ... the basic yardsticks used for making recommendations are dynamic class (or group) standards, based on profitability (which reflects the interaction of turnover and markup) to respond to the over-all seasonal changes ... automatic maintenance of files to replace manual records at the style level ... status inquiry at buyer request (vendor status, etc.) ... various merchandise management reports can be created from the style master records (aging, stock status, etc.)

Use: These systems are designed to initialize and operate a complete department. The library programs do both the initializing and regular operation. The user does not have to write any programs to use the systems. However, the user may desire to modify the operational programs in the Staple Control Subsystem and Fashion reporting areas and will probably write additional programs to extend the reports produced by the system.

Additionally the user may wish to employ the Forecasting Subsystem to aid in developing seasonal forecasts as inputs to the planning process at the department and class level. Appropriate documentation and interfaces to the Forecasting Subsystem are provided.

Customer Responsibilities:

1. Program Requirements -- In general, the Staple and Fashion Systems are complete systems. However, since some users may have unique requirements in the way of significant transactions or reports, etc., some minor additions to the Retail IMPACT programs may be necessary. The following represent areas where user-generated programs may be required.

   Changes to existing outputs of Retail IMPACT -- as an example, a basic purchase order is provided as part of the Staple System. If the user desires his own purchase order format, a program must be provided by the user to print in his format from the files that contain the Retail IMPACT purchase order information.

   Additional merchandise management reports -- the user may wish to produce merchandise management reports beyond the basic reports provided by the Staple and Fashion Systems. The use of report generation techniques make the production of many additional reports feasible.

   Any modification to the standard Retail IMPACT programs -- as an example, any transaction unique to a particular user -- would require a user-written modification. Users of the Fashion System who desire complete Black Book replacement or maintenance of summary records, users of the Staple System who desire stock count inputs, and users who wish to employ the Forecasting Subsystem to aid in developing planning forecasts will need to write required I/O and file maintenance routines. Appropriate flowcharts and interfaces to the Staple Control Subsystem, the Forecasting Subsystem and the Fashion System are provided.

2. Staffing -- Capable user personnel are requisite to positive results. Needed to insure Retail IMPACT System benefits are Top Management Representative ... Project Director ... System Analyst ... System/360 Programmers ... and Clericals.

   The description of their qualifications and duties is detailed in the Application Description Manual (E20-0188).

3. Education -- Knowledge of the Retail IMPACT System, its implementation requirements, and its operation is achieved by user personnel through attendance in the following schools -- 2 1/2-day Executive Retail IMPACT System ... 5-day Retail IMPACT System Implementation - Fashion ... 10-day Retail IMPACT System Implementation - Staple.

4. Evaluation -- A very important responsibility of the customer is to establish a base for comparison of Retail IMPACT System results with those of the system replaced. Sales, inventory, and level of service represent minimum parameters for comparison. Further information regarding the need to evaluate and techniques for evaluation is detailed in the Application Description Manual (E20-0188).

Programming Systems: The programs are designed to operate under the OS/360, PL/I Level F, or DOS/360, PL/I.

Minimum System/360 Configuration for Fashion under OS/360 or DOS/360, PL/I and Staple Control Subsystem under DOS/360, PL/I: System/360 Model F30 (65K) with Decimal Arithmetic (#3237), Floating Point Arithmetic (#4427), 1051 Attachment (#7915) ... 1051 Control Unit Model N1, 3130 CPU Attachment (#3130) ... 1052 Printer-Keyboard Model 8 ... 1442 Card Read Punch Model N1 ... 1443 Printer Model N1 with Selective Character Set (#6402) and the 63 Character Set Type Bar (#9089)* ... 24 Additional Print Positions (#5558) ... 2841 Storage Control ... 2311 Disk Units (4 required) ... 2415 Tape Unit Model 1.**

Minimum System/360 Configuration For Staple under OS/360, PL/I and Staple Forecasting and Simulation Subsystems under DOS/360, PL/I: System/360 Model G 40 (131K) with Decimal Arithmetic (#3237), Floating Point Arithmetic (#4427), 1052 Adapter (#7920) ... 1052 Printer-Keyboard Model 7 ... 1442 Card Read Punch Model N1 ... 1443 Printer Model N1 with Selective Character Set (#6402) and the 63 Character Set Type Bar (#9089)* ... 24 Additional Print Positions (#5558) ... 2841 Storage Control ... 2311 Disk Units (4 required) ... 2415 Tape Unit Model 1.

*Users ordering a 1403 printer will require a QN2 or PN2 print train.

**Users Operating the Fashion System who do not intend to implement "Black Book" replacement, summary files, or the Staple System will require one less disk or tape.

Basic Program Material for Retail Impact Fashion System/OS (360A-DR-04X):

Publications* -- Application Directory ... Program Description Manual H20-0480 ... Operations Manual H20-0481.

Machine Readable** -- Source programs with narrative and sample problem decks are available on one 9-track DTR (800 or 1600 bpi) or on one 7-track DTR (800 cpi -- Data Conversion Feature required).

Optional Program Material for 360A-DR-04X:

Machine Readable** -- Flowcharts in print line images are available on one 9-track DTR (800 or 1600 bpi) or one 7-track DTR (800 cpi -- Data Conversion Feature required).

Ordering Procedure: See the DP Sales Activity section of the Branch Office Manual.

*If only the publications, or if additional copies of the publications are required, order from the IBM Distribution Center, Mechanicsburg -- not from PID.

**DTRs will be supplied by PID; no tape submittal is required. If the track density requirements are not specified on the back of the Program Order Card, 9-track at 800 bpi will be supplied.

Additional Program Support Material: Application Description Manual (E20-0188).

For further information contact your Industry Marketing - Distribution Representative.

Medical Information System Programs (MISP): A special release procedure for MISP will be in effect during 1968.

MISP will be released under direct control of Industry Marketing - Medical, since testing of MISP is dependent on the extent to which system facilities and parameters are required by user application programs. This controlled release plan will assure the most complete testing in hospitals under varying environmental conditions and provide a suitable marketing and technical support environment for installation of a hospital information system (HIS). Changes to the availability procedure will be stated by December 1968. Sites with an installed or on-order configuration required by MISP and an installation plan approved by DP Medical Industry Marketing are eligible to obtain the announced programs for installing. These hospitals, using MISP to install a HIS in 1968, will be considered in field test status and will receive special IBM support. MISP programs and documentation will be offered only after a written agreement has been signed between the customer and the IBM branch office (a sample agreement can be obtained through DP Medical Industry Marketing, GEM HQ). Customers affected should be informed of this information as soon as possible and the names of potential test sites with specific installation schedules nominated to Medical Industry Marketing. No customer commitment may be made relative to this program before written acceptance by Medical Industry Marketing of the proposed candidate account. The controlled release plan will help in assuring a coordinated installation program between the customer, the branch office, and Medical Industry Marketing.

Description: Recognizing the need for each hospital to install a system tailored to individual needs, the input, output, data, communications, and processing required in all hospital areas (admitting, nurse station, pharmacy, etc.) were analyzed in detail, and common program modules and functions defined. These common programs and facilities form the Medical Information System Programs (MISP), written especially for hospitals allowing easier installation of user applications in each hospital area. MISP in combination with user programs accepts admitting information, doctors' orders, laboratory results, etc.

The programs may be divided into three categories: Executive, Subroutine Library and System Utilities.

The Executive Programs use DOS facilities, initialize, suspend or terminate system operation, select, initialize and terminate application programs, maintain system status and priority, manage communication lines, handle the timer, initialize time-called programs, handle interrupts, queue messages, accept macro orders and manage I/O.

The library programs are commonly-used subroutines assembled with user-written instructions to construct the application programs. Routines are available to insert orders into the Patient Master Record (PMR), scan the PMR for information based on user-specified parameters, scan and update both activity and reminder tables, check messages for valid source, access PMR based on admission number, search tables, perform various conversions between date and time, define work areas and registers, move characters, load and store, pack, unpack and initialize fields, compute totals, compare fields and formulate characters.

The system utility programs will also be available. These programs assist the user in loading the information that describes his system for the Executive and user application programs. Programs are available for defining and loading application data sets, loading and modifying time-dependent functions, formatting and clearing the PMR, loading and modifying the Executive tables, adjusting date and time, and performing terminal test and control functions.

Representative record layouts are provided with the programs. These designs include control tables required to describe each user's specific installation, service area master records, patient orders and station activity tables.

Features: Capability for operating both Tele-processing and background programs simultaneously ... locations can be defined by symbolic reference ... centrally located patient master record ... executive program design allows application program exchange between hospitals ... hospital application programs constructed with powerful MISP subroutine library ... modular program construction allows generation of individually tailored system.

Customer Responsibilities: Gathering master file data ... constructing and coding Assembler Language application programs within the requirements of the MISP environment ... parallel operation during system checkout ... keymat design and procedure handbooks ... training personnel on terminal and system operation ... backup procedures and restart programs ... assuring accuracy of system input and output ... selection of terminal and system sites.

Branch Office Responsibility: The serviceability requirements of a HIS are especially significant due to the vital nature of the application. These requirements will be proportionate to the scope of a particular HIS. The branch office must address the systems serviceability requirements for the specific needs of their customer and his specific use of MISP in his installation. DP Regional Systems Assurance approval and Field Engineering review for their particular customer situation are required.

Special Sales Information: The Medical Information System Programs reduce the customer programming effort, provide a basis for uniformity in system design among users, and offer a means for each customer to construct a hospital information system to meet his own needs. System installation and customer classes are planned nationally at central locations, and dates will be announced through Medical Industry Marketing. Enrollments will be coordinated on an installation date priority basis through the Regional Medical Representatives and the Medical Development Programming Center, Cranford, N. J.

Programming System: The Medical Information System Programs use DOS/360. The program modules are written in Assembler Language. For background jobs in a minimum configuration system the hospital can use any object program or job (RPG, Sort/Merge, etc.) supported by DOS/360, requiring 10K of core or less and not using the MISP Executive Programs.

Minimum System Requirements: System/360 Model 30F, Interval Timer (#4760), Selector Channel (#6960), Storage Protection (#7520), Decimal Arithmetic (#3237), 1051 Attachment (#7915) ... 1442 Card Read Punch Model N1 ... 1443 Printer Model N1 ... 1051 Control Unit Model N1, CPU Attachment (#3130), First Printer Attachment (#4409), First Punch Attachment (#4410), First Reader Attachment (#4411), Systems Console Attachment (#9708) ... 1052 Printer-Keyboard Model 8 ... 2841 Storage Control Model 1 ... four 2311 Disk Storage Drives Model 1 ... 1316 Disk Packs Model 1 as required ... 2702 Transmission Control (15 lines), Terminal Control - Type 1 (#4615), Selective Speed (#9684); 31 Line Expansion (#7955) and Terminal Control Base dependent on number of lines and terminals required.

The minimum processor (Model F, 64K) is intended to provide a suitable growth program for a customer installation (from accounting to limited Tele-processing and HIS testing, and leading to an operational HIS). Most customers will require a 128K, Model 40G, processor for an operational HIS; an operational HIS should include additional on-line error recording and error recovery facilities. These cannot be included in a 64K, Model F, processor with 20 terminals and a 10K background program area. Consult your Medical Industry Marketing Representative and Regional DP and FE Systems Assurance Representatives for the specific trade-offs for your customer before contacting the customer. Certain program modifications will be required to take advantage of the increased core available in a 128K, Model G, system. Individual terminal configurations use 1051 Control Unit with special features. All terminals will have a 1092 Programmed Keyboard Model 2 with Multiple Key Depression (#5247), 1051 Attachment (#7915), and 1052 Type Entry Key and Sensing for 256 Keymats (RPQ E38484). Depending on the particular terminal location, a 1052 Printer-Keyboard or 1053 Printer will also be required. The laboratory configuration will require a 1093 Programmed Keyboard Model 2 (RPQ E38484) in addition to a 1092. Admitting will require a 1056 Card Reader Model 2. A system operator's terminal should include at least one component of every type used throughout the hospital.

Other input/output units may be required to satisfy individual user application and backup requirements. The programs provide an interface for user programs written to support these devices. Consideration must be given to: volumes of input and output in light of required thoughput speeds ... background system availability ... accounting system needs ... audit, backup and restart programs and procedures ... other devices supported by DOS/360.

Reference Material: Application Description Manual (Y20-0153).

For further information contact your Medical Industry Marketing Representative.

SEE REVERSE SIDE FOR "NOTE TO WORLD TRADE READERS"

Note to World Trade Readers

This letter is a reprint of an IBM Programming Announcement and was mailed concurrently to USA and WT offices. The following changes, when appropriate, should be applied to the text for WT use.

[1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.

[2] Advance copies of the form numbered publications mentioned in the above either have been shipped (with additional copies available from the IBM Distribution Center, Mechanicsburg, Pennsylvania) or will be shipped when available. In the case of the later, availability will be announced in the Weekly DP Marketing Publications Release Letter.

[3] When a new version of a program is announced current users must order it; they will not receive it automatically nor will they necessarily receive a prepunched request card in their Area.

[4] If DTR distribution is indicated in the above, program distribution media may be different in your area based on local conditions.

[5] All references made to the Program Information Department (PID) should be understood to mean the appropriate WT Program Library.

[6] Any reference made to DPD Departments (or Regions) as sources of information or for manuals etc. should be understood to mean the comparable WT Department (or corresponding organizational level).

[7] Communications facilities or services may be required which are not offered in all WT countries. In case of any doubt as to the availability of suitable communications facilities, the country Teleprocessing Coordinator should be consulted.

[8] References made to Engineering Change requirements should be verified with the local CE office. Although E/C requirements are identical for WT and IBM, availability and shipping dates will differ. NO PRODUCTION COMMITMENTS FOR PROGRAMS WITH E/C LEVEL REQUIREMENTS SHOULD BE MADE TO CUSTOMERS PRIOR TO VERIFICATION WITH LOCAL CE MANAGER OF EC AVAILABILITY.