

**RETAIL IMPACT STAPLE SYSTEM (TYPE II)
AVAILABLE UNDER OS/360**

- Retail Impact Staple System under OS/360 (360A-DR-05X) may now be ordered. First shipments will begin the week ending January 17, 1969.

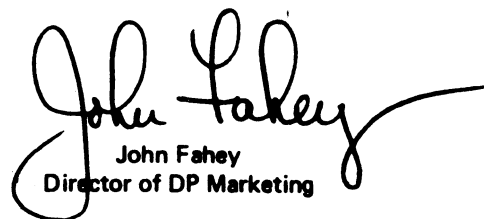
This system uses an advanced forecasting subsystem which employs adaptive forecasting, probability and statistical science with appropriate decision rules to forecast demand, determine order points, and order up to levels. An advanced control subsystem is provided tailored to the needs of the retail 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 is 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.

Availability of the various Retail IMPACT Systems (as announced in P68-93) is listed on page two of this announcement.



John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

Note to World Trade Readers

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- 12 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 latter, availability will be announced in the Weekly DP Marketing Publications Release Letter.
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- 17 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.
- 18 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.**

FOR IBM INTERNAL USE ONLY

Release Date: January 2, 1969
Distribution: All Areas

**THREE LANGUAGE CONVERSION PROGRAMS
(LCP) ANNOUNCED FOR OS/360**

With the three new OS/360 Language Conversion Programs, an aid is provided to help translate COBOL (E and F), FORTRAN (E, G and H) or ALGOL source programs into OS/360 PL/I (F) source statements having the same meaning and effect.

These LCPs provide statement by statement assistance for conversion of programs at a source statement level.

Highlights

- Flags statements without PL/I equivalence or which may convert ambiguously.
- Provides PL/I program listing with conversion action messages and suggestions.
- Produces the converted programs on cards or in card images on tape or disk.

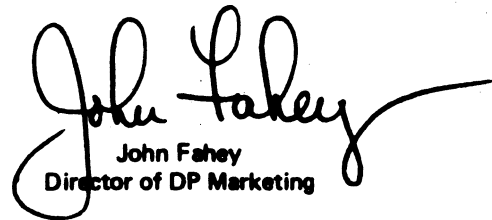
Availability

The FORTRAN and ALGOL LCPs will be available January 13, 1969; COBOL LCP May 15, 1969.

Planning Note

The programs produced by the LCPs do not necessarily exploit the PL/I language capability nor the OS/360 PL/I F level compiler characteristics. Therefore, users whose sole criterion of acceptance is the performance of the resulting PL/I programs should carefully review the quantitative data provided on the following pages.

Installations planning to use OS/360 PL/I which have COBOL, FORTRAN and/or ALGOL libraries should consider the availability and capability of these language conversion programs. Appropriate usage of these LCPs should be part of the overall transition plan. Some of the factors to be considered are included on the inside pages.



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Director of DP Marketing

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Planning Considerations

Installations which have already elected to use PL/I for application program development should find these programs useful in certain instances including quick conversion of selected programs for rapid cut-over of language usage and guiding the choice between re-design or translation. Transition plans may now be augmented with the availability of these LCPs.

A transition plan appropriate to each installation will have the following factors and trade-offs considered:

- . Training cost - including retraining.
- . Overlapping of the maintenance of current production programs with the development of new programs.
- . Conversion of program libraries versus discontinuance of programs through attrition.
- . Availability of system resources including machine time for testing and mechanical conversion, etc.
- . Frequency of execution and modification of programs within an application which influence a translate/no translate decision.

Additional details are below with some quantitative guideline information on the following factors:

- . Speed of actual translation process
- . Execution performance of resulting PL/I program
- . Object core size of the resulting PL/I program

Functional Capabilities

- Recognizes and converts COBOL, FORTRAN and ALGOL statements into PL/I statements having the same meaning and effect.
- Detects and flags COBOL, FORTRAN and ALGOL statements that have no PL/I equivalents or that cannot be meaningfully or unambiguously converted into PL/I statements. (Note that certain features, such as REPORT WRITER, OCCURS DEPENDING ON, are not handled by the LCP - see IBM S/360 Conversion Aids: Cobol (E/F)-to-PL/I (F) Language Conversion Program * for more details.)
- Produces an output listing of the PL/I program as well as messages providing information on the conversion actions. The user may specify (option SOURCE in the EXEC card) that the output listing also contain the original source program statements.
- Produces, when specified by the user (option DECK in the EXEC card), the converted program on cards, or as card images on tape or on disk.

* Availability will be announced in a future PRL.

System Requirements

The machine requirements depend on the type of run to be made: a conversion run or a link-editing run for creating LCP load module. The minimum S/360 configuration required for a conversion run by the LCP is:

- One S/360 Model 40 with 128K bytes of main storage. The LCP COBOL itself needs a minimum of 80K bytes, FORTRAN 70K bytes, and ALGOL 54K bytes to operate in a PCP or MFT environment. These 80K, 70K and 54K bytes include Data Management routines and buffers. To use the LCP with MVT, it is suggested that 6K be added to the SIZE chosen so as to obtain the REGION specification.
- Universal instruction set.
- Minimum peripheral equipment required by the Operating System.

The logical data sets required by the LCP are shown in the Table. Note that when these Data Sets are on DASD, they may be placed on the same volume as the system residence.

Logical Data Sets Required by the LCP for a Conversion Run		
Data Set	Function	Device Options
SYSIN	Source Input	Magnetic Tape Unit, Card Reader, Direct Access Storage Device (DASD)
SYSPRINT	Listing Output	Magnetic Tape Unit, Printer, DASD
SYSUT1	Auxiliary Storage	DASD
SYSUT2	Auxiliary Storage	DASD
SYSUT3*	Auxiliary Storage	DASD
SYSUT4*	Auxiliary Storage	DASD
SYSPCH**	Deck Output	Magnetic Tape Unit, Card Punch, DASD
* COBOL only		
** SYSPCH is required only for punched-card Output (or card image on magnetic tape or DASD) of the converted program.		

For creation of the LCP load module, an additional 2311 Disk Storage Drive or magnetic tape unit is required to run the distributed program.

In order to create the LCP load module, and/or to execute a conversion run, the Operating System must include the modules for the PL/I (F) compiler and its library.

Performance

COBOL Language Conversion Program

For a set of programs that have already been tested on a S/360 Model 50 with 128K bytes of main storage and using the minimum partition size (80K), the conversion speed ranged from 55 to 65 cards per minute. This speed applies when the SOURCE and DECK options are specified on the EXEC card, producing a source program listing on SYSPRINT and a punched target program on SYSPCH.

The machine configuration is as follows:

- One 2540 Card Read Punch for SYSIN and SYSPCH
- One 1403 Printer for SYSPRINT
- One 2311 Disk Storage Drive for SYSUT1, SYSUT2, SYSUT3, SYSUT4
- One DASD for system residence

When SYSIN, SYSPCH and SYSPRINT are assigned to a 2401 Magnetic Tape Unit, Model 3, and records are unblocked, the range of conversion speed was from 60 to 75 cards per minute.

FORTRAN Language Conversion Program

On a S/360 Model 50 with 128K bytes of main storage, the average conversion time (T) for a FORTRAN program containing N cards is given in the following formula (in seconds):

$$T = 55 + 37 \times S + 0.75 \times N$$

S: being the number of subprograms

The time given is that which is applicable when the user has specified the options SOURCE and DECK in his EXEC card, thus requiring the source program to be listed on SYSPRINT and the target program to be punched on SYSPCH. The devices to be used are as follows:

- 2540 Card Read Punch for SYSIN
- 1403 Printer for SYSPRINT
- 2540 Card Read Punch for SYSPCH

When SYSIN, SYSPRINT and SYSPCH are 2401 Magnetic Tape Units (Model 3) and records are unblocked:

$$T = 55 + 37 \times S + 0.60 \times N$$

ALGOL Language Conversion Program

On a S/360 Model 40 with 128K bytes of main storage, the average conversion time (T) for an ALGOL program containing N cards is given in the following formula (in seconds):

$$T = 65 + 0.65N$$

The time given is that which is applicable when the user has specified the options SOURCE and DECK in his EXEC card, thus requiring the source program to be listed on SYSPRINT and the target program to be punched on SYSPCH. The devices to be used are as follows:

- 2540 Card Read Punch for SYSIN
- 1403 Printer for SYSPRINT
- 2540 Card Read Punch for SYSPCH

When SYSIN, SYSPRINT and SYSPCH are 2401 Magnetic Tape Units (Model 3) and records are unblocked:

$$T = 65 + 0.50N$$

Object Program

Sample COBOL, FORTRAN and ALGOL programs were used to test the LCPs. The sample programs are not necessarily representative of all COBOL, FORTRAN and ALGOL programs. The test information is provided only as a general guideline.

The sample programs, when translated and compiled by the PL/I F Compiler:

Take between one and one third and one and two thirds times as long to execute as the original COBOL programs and will occupy up to 3 times as much core storage.

Take about one and a quarter times as long to execute as the FORTRAN original using FORTRAN H option 0 or two and three quarters times as long as FORTRAN H option 2 ... and will require up to twice as much core storage as the originals.

Take an average of 0.85 time as long to execute as the ALGOL originals and will require up to one and a half times as much core storage.

Reference Publications

S/360 Operating System COBOL Language, C28-6516 ... S/360, PL/I Reference Manual, C28-8201 ... S/360 Operating System, PL/I (F) Programmer's Guide, C28-6594 ... PL/I for Commercial Users, C20-1651 ... S/360 Conversion Aids: COBOL (E/F)-to-PL/I (F) Language Conversion Program* ... OS/360 ALGOL Language C28-6615 ... OS/360 PL/I Language Specifications Y33-6003 ... S/360 Conversion Aids: ALGOL-to-PL/I Language Conversion Program for S/360 Operating System, C33-2000 ... S/360 Operating System, FORTRAN IV C28-6515 ... PL/I for FORTRAN Users, C20-1637 ... S/360 Conversion Aids: FORTRAN IV-to-PL/I Language Conversion Program C33-2002.

* Availability will be announced in a future PRL.

**709/7090/7094/7094II EMULATOR PROGRAM
AVAILABLE WITH 2420 MODELS 5 AND 7
AND 2803 SUPPORT**

Version 3 of the 709/7090/7094/7094II Emulator Program for the System/360 Model 65 (360C-EU-729) is now available. In addition to all the features of Version 2, it includes support for 2420 Magnetic Tape Unit Models 5 and 7 and 2803 Tape Control Model 2.

The 7090-series* Emulator Program is a stand-alone program that executes 7090-series programs on a 524K System/360 Model 65 equipped with the Compatibility Feature (7119). The program uses standard System/360 instructions and the special instructions provided by the Compatibility Feature. The Compatibility Feature is added to the System/360 Model 65 to permit the execution of 7090-series programs. The Emulator Program and the Compatibility Feature combined are known as the Emulator.

The Emulator provides an efficient means of converting to System/360 by eliminating the necessity of converting all 7090-series programs before installing System/360. It allows the user to allocate most of his programming resources toward developing new applications and redesigning existing applications to take full advantage of System/360 facilities.

Most currently operating, non-time-dependent, 7090 programs can be executed without modification, although certain special and custom features are not emulated.

The performance of the Emulator varies according to the instructions used and the I/O activity of the emulated 7090 program. The average internal speed of the Emulator, when executing non-I/O instructions, is approximately twice that of the 7090.

Throughput performance depends on the mixture of instructions and the comparative performance of equivalent I/O devices. However, throughput time for most jobs is approximately equal to the throughput time on the 7094 Model 1. Timing information that may be used to estimate throughput is presented in the publication, IBM System/360 Conversion Aids: The IBM 709/7090/7094/7094II Emulator Program for IBM System/360 Model 65, C28-6565.

See the reverse side for further details, program material and ordering instructions.

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John Fahey
Director of DP Marketing

*7090-series is used collectively to refer to the 709, 7090, 7094, 7094II, unless specifically noted otherwise.

FOR IBM INTERNAL USE ONLY

Release Date: January 3, 1969

Distribution: All Areas

System Requirements ... The basic system requirement for using the Emulator is System/360 Model 65 with: At least 524K bytes of main storage ... The 7090 Compatibility Feature (7119) ... A 1052 Printer-Keyboard Model 7 with 1052 Adapter (7920) or with 2150 Console ... A 2400-Series Magnetic Tape Unit (9-track or 7-track with the Data Conversion Feature) ... Two additional units (2400-Series Magnetic Tape Unit, 2501 Card Reader, 1442 Card Read Punch, 2520 Card Read Punch, or 2540 Card Read Punch) for initialization purposes. However, card read-punch facilities must be available either on - or off-line. If a 7-track 2400-Series Magnetic Tape Unit is used to contain the Edit file, the tape control unit must be equipped with the Data Conversion feature.

A variety of System/360 input/output devices can be used to emulate the 7090-series devices if the System/360 devices satisfy certain requirements. System/360 card read-punch units must be equipped with the Card Image Feature and all tape drives used for 7-track tapes must be equipped with the 7-track

Compatibility Feature. In addition, one or more IBM 2860 channels or IBM 2870 selector subchannels are recommended for each 7090 channel emulated.

As assembled and distributed, the Emulator supports 7090 channels A through D. Tapes on the 2870 Multiplexer Channel must be connected through selector subchannels. The maximum combined rate for tapes attached to the multiplexer channel is 360KB. All emulated 7090 unit-record devices must have the same 7090 channel address (normally, this is channel A). This requirement does not, however, preclude using separate System/360 channels for the emulation of these devices.

Figure 1 shows the System/360 devices that may be used to emulate 7090-series devices.

Input/Output devices are required for Emulator-Program residence, control-information input, message output, and console functions. Figure 2 shows System/360 devices that may be used for each of the above mentioned functions.

<u>7090-Series Devices</u>	<u>System/360 Devices</u>
729 Tape Unit	2400-Series Magnetic Tape Unit**
711 Card Reader	2540 Card Read Punch 1442 Card Read Punch* 2501 Card Reader 2520 Card Read Punch* 2400-Series Magnetic Tape Unit**
716 Printer	1052 Printer-Keyboard 1403 Printer 1443 Printer 2400-Series Magnetic Tape Unit**
721 Card Punch	2540 Card Read Punch 1442 Card Read Punch* 1442 Card Punch 2520 Card Read Punch* 2520 Card Punch 2400-Series Magnetic Tape Unit**

* The 1442 and the 2520 can be used to emulate either the 711 or the 721, but not both at the same time.

** 2415 Magnetic Tape Unit is not supported.

Figure 1. IBM 7090-System/360 Equivalents

<u>Emulator Function</u>	<u>System/360 Devices</u>
Emulator-Program Residence	2400-Series Magnetic Tape Unit*
Control-information Input	1052 Printer-Keyboard 2400-Series Magnetic Tape Unit* 2540 Card Read Punch 1442 Card Read Punch 2501 Card Reader 2520 Card Read Punch
Message Output	1052 Printer-Keyboard 1403 Printer 1443 Printer 2400-Series Magnetic Tape Unit
Console Functions	1052 Printer-Keyboard

Notes: 1. The indicated devices need not be in addition to the devices shown in Figure 1. Also, the 1052 may concurrently perform more than one Emulator function.
2. 2415 Magnetic Tape Unit is not supported.

* If 7-track, the Data Conversion Feature is required.

Figure 2. Emulator Device Requirements

Basic Program Material

Documentation -- Program Material List.

SRL Publications -- S/360 Conversion Aids: The 709/7090/7094/7094II Emulator Program for S/360 Model 65, C28-6565-4 ... S/360 Conversion Aids: Sample Problems for S/360 Emulator Programs, C27-6929.

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

Machine Readable -- The Emulator Object Program, the Emulator Initialization Deck, the sample program, and the Emulator Initialization Object Program are available on one 9-track (800 or 1600 bpi) or one 7-track (800 cpi) DTR (Data Conversion feature required).

Current users will not receive the new version automatically. Instead, they will receive a prepunched program order-card and a letter announcing the new version and instructing them to order it through the branch office.

DTRs are supplied by PID -- no tape submittal is required.

The 7090 Emulator Object Program must be unblocked to 80-character records to create an object program file (PG) before being used in an Edit run to create a 7090 Emulator System Tape (EM9SYS). This file may be deblocked using the BPS/360 Tape-to-Tape Utility Program, 360P-UT-054. Writing of the initial tape mark on the output tape when using the tape-to-tape program must be prevented by using the UPSI job control card option.

The 7090 Emulator Initialization Deck and the Sample Program may be punched using the BPS/360 Tape-to-Card Utility Program, 360P-UT-053.

The 7090 Emulator Initialization Object Program must be unblocked to 80-character records to create an initialization object program file (PG) before being used to update and create a new 7090 Emulator Initialization Deck. This file may be deblocked using BPS/360 Tape-to-Tape Utility Program, 360P-UT-054. Writing of the initial tape mark on the output tape when using the tape-to-tape program must be prevented by using the UPSI job control card option.

Optional Program Material

7090 Emulator Source Program is available on one 2400' reel of magnetic tape, either 9-track (800 or 1600 bpi) or 7-track (800 cpi, Data Conversion feature required). (Included on this reel is a List Copy (LSTCPY) Program and an Update (UPDATE) Program to simplify assembly procedures.

Documentation -- Optional Program Material List ... Source Tape Assembly Operating Instructions... Source Tape Directory.

Ordering Procedure

See the DP Sales Activity section of the Branch Office Manual. If the distribution medium is not specified on the back of the program order card, 9-track at 800 bpi will be forwarded.

Reference Material

S/360 Conversion Aids: The 709/7090/7094/7094II Emulator Program for the S/360 Model 65 Y28-6566 ... 7094 Data Processing System A22-6703 ... S/360 System Summary A22-6810 ... S/360 Principles of Operation A22-6821 ... S/360 Special Feature Description 709/7040/7044/7090/7094/7094II Compatibility Feature for S/360 Model 65 A27-2715 ... S/360 BPS Programmer's Guide (8K tape) C24-3354 ... S/360 BPS Operating Guide: Basic Tape System (8K) C24-3391 ... S/360 BPS Specifications: Card and Tape Utility Programs C24-5026 ... S/360 BPS Operating Guide: Card and Tape Utility Programs C24-5027.

**PL/I: A POWERFUL LANGUAGE FOR THE MODEL 20**

System/360 Model 20 which started as a card system ... enhanced by a wide range of processors and a variety of input/output ... now offers PL/I to customers and prospects.

This latest announcement satisfies the varied computing requirements of the Model 20 user.


PL/I for the System/360 Model 20 matches the ever expanding applications of the Model 20. This subset compiler offers the user many of the high level language facilities previously available only on the larger systems.

The PL/I language is specifically designed to cover a wide range of applications. It can be used to solve both commercial and scientific/engineering problems. It is simple for the beginning programmer, and yet, has successfully met the demands of the more experienced.

The Model 20 PL/I compiler operates under the control of the Model 20 Disk Programming System monitor ... requires a 16K processor and the normal input/output devices of the Model 20 DPS.

Availability ... April 30, 1970.

See the reverse side for specific details of features capabilities, requirements and the new Model 20 PL/I publications.



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Director of DP Marketing

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Program Features

The variety of features provided by PL/I and the simplicity of the concepts underlying them, demonstrate the versatility of the language as well as its universality. The Model 20 PL/I source language is a subset of the full PL/I language and is upward compatible, except for input/output devices that are not supported by other models of the System/360.

The Compiler features are:

- Language capabilities to satisfy both commercial and scientific/engineering applications.
- User flexibility of free-form input thus eliminating prespecified card columns.
- Complete support of Sequential and Index Sequential data organization.
- Optional data formats to permit selection of most efficient use of magnetic tape or disk files.
- File security provided by System/360 standard magnetic tape and disk file labels.
- Accessibility to files through the inquiry capabilities of the 2152 printer-keyboard.
- Simplified coding techniques provided by character handling capabilities and built-in functions such as SQRT, DATE, SIN, COS.
- Capability to optimize core storage utilization by static or automatic storage allocation.
- Optimization of programming resources through comprehensive compiler diagnostics and extended debugging aids.

Detail Program Features

Data Description

Constants and Variables

Fixed Decimal

Maximum precision is 15; default is 5.
Declarable scale factors may range from 0 to 15.

Floating-Point Decimal

Maximum precision is 15; default is 6.
Range is

$$10^{-51} \leq [X] < 10^{49} \text{ and } X = 0.$$

Character String - Maximum Length is 255 bytes.

- Arrays up to 3 dimensions.
- Structures to a depth of 8.
- Static and automatic storage to facilitate efficient core storage utilization.
- Default values to aid the programmer.
- Storage allocation in I/O buffers.

Data Manipulation

Assignment

- Data elements may vary in form, scale and precision.
- Type conversion of numeric field to character string.

String operations are facilitated by the use of comparison and concatenation operators. Built-In Functions, such as:

SQRT, EXP, LOG, SIN, COS, TAN, DATE, MAX, MIN, HIGH, ATAN, TANH, LOW, FLOOR, CEIL, ABS, TRUNC, SUBSTR, CHAR, ADDR, ROUND.

Single external procedure blocks are supported. Invocation of subroutines is via CALL or function reference.

Input/Output

File attributes include INPUT, OUTPUT, UPDATE RECORD and Edit-directed STREAM I/O. SEQUENTIAL and DIRECT processing.

DISPLAY and REPLY for operator CPU console communication.

Input and output is handled with OPEN, CLOSE, GET, PUT, READ, WRITE, and REWRITE. Control format items are used to control spacing {X} and format (SKIP, PAGE).

Program Control

GO TO, IF, and DO statements provide control of program logic.

Interrupt handling

ON-conditions provide a means of control over system or programmer errors. For example: CONVERSION, ENDFILE, KEY, FIXEDOVERFLOW, OVERFLOW, UNDERFLOW, ZERODIVIDE, ENDPAGE, TRANSMIT, RECORD, ERROR.

Data Management

Tape records may be fixed or variable length, blocked or unblocked; they may also be undefined. Block size may range between 18 and 4095 bytes.

Disk records may be fixed length, blocked or unblocked. Block size may range from 1 to 26730 bytes for sequential files and to 16200 for indexed-sequential files.

Files created by RPG and Assembler/IOCS can be used by PL/I, and vice versa.

Disk File Organization

Sequential and indexed-sequential file organizations are supported. Files of each type can be processed as input, output, or update.

System Requirements

For Submodel 2 and Submodel 5 and related input/output devices:

- Minimum configuration for compilation
 - A 2020 Processing Unit Model D2 or D5.
 - A 2311 Disk Storage Drive Model 11 or 12.
 - A card reading device (2501, 2520, 2560).
 - A printer (2203, 1403).
 - A card punching device (2520, 2560, 1442) if punching the object deck is required.

- Minimum configuration for execution.
 - A 2020 Processing Unit Model D2 or D5.
 - A 2311 Disk Storage Drive Model 11 or 12.
 - A card reading device and a printer.
 - I/O devices as specified by the user.

- Additional devices supported **DC 5-E 5**
 - A 2020 Processing Unit Models ~~D2-D5~~
 - One additional 2311 Disk Storage Drive Model 11 or 12 on Submodel 2, and up to three additional drives on Submodel 5.
 - 2415 Magnetic Tape Units (1 to 6 drives).
 - 2152 Printer-Keyboard.
 - One additional card reader.
 - One additional card punch.

For Submodel 4

- Minimum configuration for compilation
 - A 2020 Processing Unit Model D4.
 - A 2311 Disk Storage Drive Model 12.
 - A 2560 MFCM Model A2.
 - A 2203 Printer Model A2.

- Minimum configuration for execution
 - A 2020 Processing Unit Model D4.
 - A 2311 Disk Storage Drive Model 12.
 - A card reading device and a printer.
 - I/O devices as specified by the user.

- Additional devices supported
 - One additional 2311 Disk Storage Drive Model 12.
 - 2152 Printer-Keyboard.

Compiler Options

Options are provided to the Model 20 PL/I compiler by control cards. The compiler can:

- Compile, link-edit and execute.
- Punch executable object program.
- List source program.
- Use work areas on 1, 2, or 3 disk drives.
- Batch compile more than one external procedure per job.
- List diagnostics depending on the severity.
- Print cross-reference listing.
- Print symbol core offsets and lengths of automatic storage.
- List object program.
- Use 48 - or 60 - character set.
- Provide for object-time diagnostic options.

Diagnostic Capability

Source program diagnostics are given at three levels; syntax, data declaration, and semantic errors.

A comprehensive diagnostic facility is available at execution time; for example,

A facility of the source language allows the printing of data during program testing (CALL DYN-DUMP).

Error conditions will be printed and will indicate an error code, address where the error occurred, the chain of active procedures and if applicable, the address of the file that caused the error.

A compile-time option is available to cause a storage print to occur before calling for End of Job if the ON ERROR acondition is raised or if a hardware stop occurs during execution.

Another compile-time option will allow, in addition to 2 and 3 above, printing the number of the error statement, which can then be related to the source listing.

Additional Capabilities

Object time overlay ability provides for the execution of jobs comprised of many external procedures that would not fit into core storage without partitioning.

Assembler language object modules may be called from PL/I programs.

Object programs compiled with the Model 20 PL/I compiler may run as inquiry programs or may run as main-line programs that permit inquiry (roll-out, roll-in).

Storage Requirements

External Storage Requirements

Compilation
The Model 20 PL/I compiler and object-time library routines (~~see item 2 below~~) will occupy about 20 cylinders of the Core Image Library of the Disk Programming System. The compiler will require at least 4 cylinders for work areas.

Execution
Library routines called during the execution of an object program require about 2 cylinders in the core-image library.

Internal Storage Requirements

Compilation
A minimum of 16K bytes.

Execution
The following tables show approximate core storage utilization of PL/I object programs. These represent preliminary figures and are subject to change prior to program delivery; therefore,

this information should be used for planning purposes only.

Three environments are considered:

- (a) 16K, two disk (one indexed-sequential file, one sequential file), 2560 card input, 2560 card punching, 2203 printer, Commercial application. Random retrieval and update of the I.S. file.
- (b) 16K, four tape (two input files, two output files) 2501 card input, 1442 card output, 1403 printer. (Note: One disk drive is used for the PL/I object-time library but not for data files) Commercial application.
- (c) 16K, one disk (one sequential file), 2520 card input, 2203 printer. Scientific computations.

	(a)	(b)	(c)
Model 20 DPS Monitor (Generative, May vary)	2900	3600	2900
Transient Area (Used for transient routines)	820	820	820
Resident control program (Support of inherent language features)	800	800	1080
Input/Output Library (Depends on I/O)	5380	4080	1800
Conversion Library (Depends on data conversions required by source program)	100	100	800
Routines for Stream I/O (Support of GET & PUT)	—	—	800
Other Library routines (Mainly mathematical routines)	—	—	500
Floating Point Routines (Simulates floating point arithmetic)	—	—	900
Contingency Available for the user (16000/less above amounts)	800	600	500
Total storage used	16000	16000	16000
Approx. number of source statements (lines)	130	150	120

Performance

Size of source program

Model 20 PL/I on a 16K, one-disk system, will be capable of compiling and executing a scientifically-oriented program of about 100 source statements and a commercially-oriented program of about 150 source statements.

The approximate size of each program cited in the section on Internal Storage Requirements is shown below:

	(a)	(b)	(c)
No. of Statements in 16K	130	150	120
No. of Statements in 24K	330	350	260
No. of Statements in 32K	530	550	400

Compilation speed

On a Model 20 with 16K, 2 disk drives, 2560 MFCM and 2203 printer, the compilation rate is approximately:

Model 20 Submodel 4	7 source statements per minute
Model 20 Submodel 2	10 source statements per minute
Model 20 Submodel 5 (16K)	20 source statements per minute
Model 20 Submodel 5 (24K)	27 source statements per minute
Model 20 Submodel 5 (32K)	30 source statements per minute

with a fixed overhead of 90 seconds per compilation. This includes listing of the source program but not punching an object deck.

Execution speed

Object-time throughput is a function of the application and the complexity of processing. Estimates of detail time requirements will be made available in the publication IBM System/360 Model 20 DPS Performance Estimates, C33-6003, with the release of the program. This will include times for I/O services and major processing routines.

Reference Material

- (C24-9006) IBM System/360 Model 20 DPS Control and Service Programs.
- (C33-6004) IBM System/360 DPS Operating Procedures.
- (C33-6003) IBM System/360 Model 20 DPS Performance Estimates.
- (C33-6000) IBM System/360 Model 20 Guide to the Disk Programming System.
- (C28-6808) A PL/I Primer (Student Text).
- (C20-1651) A Guide to PL/I for Commercial Programmers (Student Text).
- (C20-1637) A Guide to PL/I for FORTRAN Users (Student Text).
- (C33-6006) IBM System/360 Model 20 DPS System Generation and Maintenance.



P69-6

BINARY SYNCHRONOUS COMMUNICATIONS (BSC) AND 8K ASSEMBLER AVAILABLE ON SYSTEM/360 MODEL 20

Binary Synchronous Support, called Binary Synchronous Communications Adapter (BSCA) IOCS, and an 8K Basic Assembler are now available under Model 20 TPS and CPS. This support resulted in forming five new programs and enhancing four existing programs.

Under TPS

New

I/O Macro Definitions for the BSCA (360U-CQ-154)
Basic Assembler (360U-AS-153)

Modified

I/O and Basic Monitor Definition (360U-IO-151)
I/O Macro Definitions for the 1419/1259 Magnetic Character Readers (360U-IO-152)

Under CPS

New

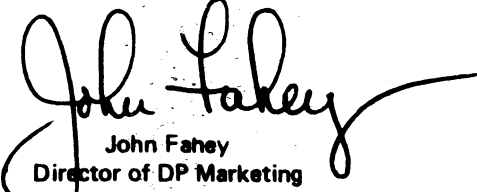
Input/Output Control System for the BSCA (360T-CQ-111)
BSCA Input/Output Error Statistics Printout (360T-UT-112)
Basic Assembler (360T-AS-110)

Modified

I/O Control System (360T-IO-002)
I/O Control System for the 1419 Magnetic Character Reader (360T-IO-029)

In addition to the above, both TPS and CPS include modifications resulting from APAR activities.

See the inside pages for additional information and the updated sales manual text.


John Fahey
Director of DP Marketing

Note to World Trade Readers

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- 11) 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.
- 12) 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 latter, availability will be announced in the Weekly DP Marketing Publications Release Letter.
- 13) 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.
- 14) Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- 15) All references made to the Program Information Department (PID) should be understood to mean the appropriate WT Program Library.
- 16) 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).
- 17) 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.
- 18) 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.**

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Release Date: January 8, 1969
Distribution: All Areas

I/O Macro Definitions For The 1419/1259 Magnetic Character Readers, 360U-IO-152, (Version 4)

In addition the macro DTFPF has been added to the 1419/1259 macro definitions which displays the version and modification level of the program.

The 1419/1259 macros were formerly integrated in the I/O and Basic Monitor Macro Definitions and had the same identification letter. They are now contained in a separate file on the distribution tape and the identification letter has been changed. This relieves the customer who does not use the 1419/1259 of deleting these macros and of making unnecessary updates and subsequent deletions when IBM supplies maintenance packages.

Detailed information is in the TPS Operating Procedures, C24-9009-2, section Creation and Maintenance of System Tapes.

System/360 Model 20, CPS, BSCA IOCS Error Statistics Printout, 360T-UT-112.

If it is desired to print out error statistics for a job just run the BSCA IOCS Error Statistics Printout Program must be loaded and executed.

The program is supplied with five different END cards. For a correct execution the END card with the core storage code (punched in columns 79-80) corresponding to the core storage capacity for execution specified in the generator control card should be used.

Detailed information is in the IBM System/360 Model 20, Input/Output Control System for the Binary Synchronous Communications Adapter, Operating Procedures (Card), C33-4002.

Basic Program Material

SRL Publication -- System/360 Model 20 Input/Output Control System for the Binary Synchronous Communications Adapter, Operating Procedures (Card) C33-4002-0.

Documentation -- Program Material List

Machine Readable -- Object Program Deck in card form.

Basic Assembler 8K 360T-AS-110 Card, 360U-AS-153 Tape

This assembler includes all capabilities of the 4K Basic Assembler. In addition it assembles the output from the BSCA generation run separately or jointly with

the user program containing macro instructions.

Minimum Machine Requirements

For assembly of a program containing BSCA IOCS macros --

2020 Processing Unit Model C2.
Input/Output units as required by the Basic Tape Assembler.

For Object Program execution --

2020 Processing Unit Model C2 with Binary Synchronous Communications Adapter.
One remotely connected Model 20 with BSCA or one System/360 Model 25 or above with 2701 or 2703 with BSCA-Input-Output units as required by the problem program.

Basic Program Material (360T-AS-110)

SRL Publications -- IBM System/360 Model 20 Card Programming Support Basic Assembler Language, C26-3602-4 and TNLs N33-8523, N33-8554 ... IBM System/360 Model 20 Card Programming Support Basic Assembler (Card Versions) - Operating Procedures, C26-3802-2 and TNLs N33-8530, N33-8556.

Documentation -- Material List

Machine Readable -- Object Program Deck and Sample Deck provided in Card Form.

Modifications to Programs

The programs that have been modified and their current status are listed below:

360T-IO-002	Version 2
360T-IO-029	Version 2

Current users will receive a letter announcing the availability of Version 2. Included with this letter will be a prepunched program order card that the customer should use in ordering the new version through the IBM branch office.

TPS Basic Program Material

The following SRL publications and documentations appropriate to the components ordered are shipped by PID with each initial Model 20 TPS order. Machine readable material is distributed as indicated below:

SRL Publications -- S/360 Model 20 TPS Operating Procedures, C24-9009-2* ... S/360 Model 20 TPS Performance Estimates, C24-9010-2* ... S/360 Model 20 CPS Basic Assembler Language C26-3602-4 plus TNLs N33-8523 and N33-8554 ... S/360 Model 20 CPS Basic Assembler (Tape Versions) - Operating Procedures, C24-9011-1 plus TNL N33-8553* ...

S/360 Model 20 DPS/TPS Tape Utility Programs, C26-3803-3 plus TNL N33-8559* ... S/360 Model 20 TPS Control and Service Programs, C24-9000-3 plus TNL N33-8551* ... S/360 Model DPS/TPS Report Program Generator, C24-9001-4 ... S/360 Model 20 DPS/TPS Assembler Language, C24-9002-3 plus TNLS N33-9026, N33-9033, N33-9039 and N33-9044* ... S/360 Model 20 DPS/TPS Tape Sort/Merge Program C26-3804-2 plus TNLS N33-8535 and N33-8558 ... S/360 Model 20 TPS Input/Output Control System, C24-9003-3 plus TNL N33-8552* ... S/360 Model 20 DPS/TPS Input/Output Control System for the IBM 1419 and 1259 Magnetic Character Readers, C33-6001-3 plus TNL N33-9043 ... S/360 Model 20 Input/Output Control System for the Binary Synchronous Communications Adapter, C33-4001-2*.

*New with this release.

Documentation -- Basic Program Material List

Machine Readable Material -- Updated version of IBM System/360 Model 20 TPS is 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.

Current users will receive the following:

A memorandum to users with a prepunched order card instructing them to order the complete replacement of the system. Because of the maintenance DTR overflow, a new tape containing all current TPS programs will be supplied. When reordering the system, current users will receive only the revised SRL Publications and Technical Newsletters, not a complete replacement of the Basic Publications. There is no change in the distribution concept.

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.

If the distribution media is not specified on the IBM Program Order Card, 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.

Complete ordering instructions are provided in the letter to users.

Optional Program Material

The following changes and new Program Logic Manual are available:

TNL Y33-8515 to System/360 Model 20, Card Programming support, Input/Output Control System, Y24-9001-0.

TNL Y33-9030 to System/360 Model 20,

Input/Output Control System for the IBM 1419 Magnetic Character Reader, Y24-9006-0.

TNL Y33-8514 to System/360 Model 20, Card Programming Support, Basic Assembler, Y33-9004-0.

TNL Y33-8518 to System/360 Model 20, Disk and Tape Programming System, Tape Utility Programs Y33-9006-1.

TNL Y33-8512 to System/360 Model 20, Tape Programming System, Control and Service Program Y33-9000-1.

TNL Y33-8513 to System/360 Model 20 Tape Programming System, Input/Output Control System, Y33-9003-0.

System/360 Model 20, Disk and Tape Programming Systems, Input/Output Control System for the IBM 1419 and 1259 Magnetic Character Readers, Y33-9009-3.

System/360 Model 20 Input/Output Control System for the Binary Synchronous Communications Adapter (Card, Tape Disk) will be announced in a future Publications Release Letter.

The sales manual text appears on the next page.

Binary Synchronous Communications Adapter Input/Output Control System (BSCA IOCS):

The BSCA IOCS consists of a set of pretested macro routines which relieve the user of much of the programming necessary to properly control the exchange of messages on a transmission line. The BSCA IOCS will be integrated into, and can be used in conjunction with, Model 20 Card, Tape and Disk Assembler/IOCS programming support. The communications program may use all the features of these IOCS packages, plus 1259 or 1419 IOCS. When a program using BSCA IOCS is being executed, the Model 20 System will be dedicated to the telecommunications job.

In the Card Programming Support, user written file definition statements become input to a special generator program which extracts from the BSCA Card Library the functions required by the job. The output from the generator run can be assembled separately or jointly with the user program containing macro instructions -- i.e. READ or WRITE -- by a card assembler requiring 8,192 bytes of core. This assembler includes all features of the 4K Basic Assembler.

In TPS and DPS the BSCA IOCS file definition statements and macro instructions are expanded into an appropriate set of symbolic machine instructions and are assembled with the users program by the TPS/DPS Assembler.

The following Data Link Configurations are supported:

Leased (unswitched) Line -- Communication with another Model 20 whose program also uses BSCA IOCS or with a System/360 Model 25/30/40/50/65/67 (operating in 65 mode)/75/85 equipped with a 2701 or 2703 (with BSC) and program supported with DOS BTAM or OS BTAM (Model 25 DOS only; Model 85 OS only).

Switched Network -- Same configurations as for leased (unswitched) line.

Centralized Multipoint Line -- The Model 20 using BSCA IOCS operates as a slave station only. The master station is a System/360 Model 25/30/40/50/65/67 (operating in 65 mode)/75/85 with a 2701 or 2703 (with BSC) and program supported with DOS BTAM or OS BTAM (Model 25 DOS only; Model 85 OS only).

Minimum System Requirements -- Card Programming Support (CPS).

- For Systems with 2020 Processing Unit Model C2-D2, C4-D4 or C5-E5 and related input/output devices.

Generator Program

2020 Processing Unit Model C2, C4 or C5.
One card reading device (2501, 2520, 2560, Model A1 or A2.)
One card punching device (1442, 2520, 2560, Model A1 or A2).
One printer (1403 or 2203, Model A1 or A2) if diagnostic messages are to be printed or the generated program is to be listed.

Assembly of a program containing BSCA IOCS macros in the Card Programming Support.

2020 Processing Unit Model C2, C4 or C5.
Input/Output units as required by the Basic Card Assembler (8K).

Additional features supported during generation and assembly.

12,288 and 16,384 bytes of core.

For object program execution.

2020 Processing Unit Model C2, C4 or C5 with Binary Synchronous Communications Adapter (#2074).
One remotely connected Model 20 with Binary Synchronous Communications Adapter (#2074) or one System/360 Model 25 or above with 2701 or 2703 with BSC.

Input/Output units as required by the problem program.

Features and units supported for object program execution.

12,288 and 16,384 bytes of core.
Card reading devices (2501, 2520, 2560, Model A1 or A2).
Card punching devices (1442, 2520, 2560, Model A1 or A2.)
Printer (1403, 2203, Model A1 or A2).
1419 Magnetic Character Reader.

Basic Program Material (360T-CQ-111)

SRL Publications -- System/360 Model 20, Input/Output Control System for the Binary Synchronous Communications Adapter (Card, Tape, Disk), C33-4001...
System/360 Model 20, Input/Output Control System for the Binary Synchronous Communications Adapter, Operating Procedures (Card), C33-4002.

Documentation -- Program Material List

Machine Readable -- Program Deck (Generator and Library) and Sample deck in card form.

Minimum System Requirements -- Tape System (TPS) and Disk System (DPS).

- For systems with 2020 Processing Unit Model C2-D2, C4-D4 or C5-E5 and related input/output devices.

For program assembly

2020 Processing Unit Model C2 or C5 (Tape System).
2020 Processing Unit Model BC2, BC4 or BC5 (Disk System).

Input/Output units as required for the Tape or Disk Assembler.

For program execution, Tape and Disk Systems.

2020 Processing Unit Model BC2, BC4 or BC5 with Binary Synchronous Communications Adapter (#2074).

One remotely connected Model 20 with Binary Synchronous Communications Adapter (#2074) or one System/360 Model 25 or above with 2701 or 2703 with BSC.

Input/Output units as required by the TPS or DPS and the problem program.

Features supported for object program execution, Tape and Disk Systems.

Up to 32,768 bytes of core storage.
Card reading device (2501, 2520, 2560, Model A1 or A2).
Card punching devices (1442, 2520, 2560, Model A1 or A2).
Printer (1403 or 2203, Model A1 or A2).
2415 Magnetic Tape Unit (Model 1-6).
1419 Magnetic Character Reader.
1259 Magnetic Character Reader.

Additional features supported for object program execution -- Disk System only.

Four 2311 Disk Storage Drives (Models 11 or 12).
2152 Printer-Keyboard

BSCA IOCS Error Statistics Printout Program (360T-UT-112)

A special Utility program in Model 20 CPS is available for printing of BSCA IOCS error statistics. The program should be loaded and executed immediately after executing the BSCA IOCS program.

Basic Program Material

SRL Publication -- System/360 Model 20 Input/Output Control System for the Binary Synchronous Communications Adapter, Operating Procedures (Card) C33-4002.

Documentation -- Program material list.

Machine Readable -- Object Program deck in card form.



OS/360 RJE SUPPORTS INTERMIX OF REMOTE WORK STATION

The Remote Job Entry Work Station intermix capability is currently available in the programs for OS/360 RJE, BOS/BPS RJE Work Station and 1130 RJE Work Station. The Model 20 intermix capability will be available concurrent with the release of the Model 20 RJE Work Station Program (P68-122).

This previously unannounced capability is included in OS/360 Release 15/16.

OS/360 RJE allows certain work station terminals to be intermixed on the same non-switched multipoint communication line and on the same switched network connection (phone number). The configuration of RJE work station terminals supported are:

Switched Point-to-Point Network- Intermixed Terminals (Not supported in World Trade marketing area)

- System/360 Model 25, 30, 40, 50, 65, 67 (in 65 mode), and 75 using a 2701 with Binary Synchronous Communication features and using the BOS/BPS Remote Job Entry Work Station Program.
- S/360 Model 25 with the Integrated Communication Attachment and Binary Synchronous Communication features and using the BOS/BPS Remote Job Entry Work Station Program.
- 1130 with Synchronous Communications Adapter and using the 1130 Remote Job Entry Work Station Program.
- S/360 Model 20 with the Binary Synchronous Communications Adapter and using the Model 20 Remote Job Entry Work Station Program.

Non-Switched Multipoint Network Intermixed Terminals

- 1130 with Synchronous Communications Adapter and using the 1130 Remote Job Entry Work Station Program.
- System/360 Model 20 with the Binary Synchronous Communications Adapter and using the Model 20 Remote Job Entry Work Station Program.

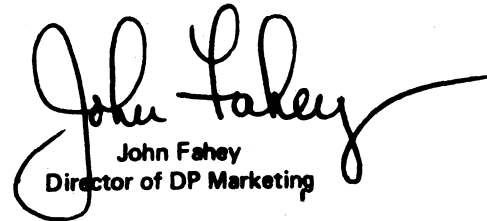
Note: The 2780 work station may not share the same non-switched multipoint line or switched connection with processor work stations (1130, Model 20, System/360).

Publications ... The OS/360 Remote Job Entry Manual (C30-2006) will be updated to include this capability. Its availability will be announced in a future PRL.

Requirements ... For BSC intermix capability the 1130 programming support requires the following programs to be at the modification level indicated:

1130-OS-005	Modification 3
1130-OS-006	Modification 3
1130-LM-003	Modification 1
1130-LM-004	Modification 1

The above programming support is available and is a prerequisite for installing EC 419694 on the 1131 CPU. This change is required for BSC intermix capability. Availability of the EC for installed machines is March 1969. Machines shipped after January 1969 will have this change installed when shipped.



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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- [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.**

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Published by DP Sales Publishing Services, WTHQ

IBM**IBM World Trade Data Processing****PROGRAM ANNOUNCEMENT****OS/360 FORTRAN H COMPILER UPDATE
PACKAGE AVAILABLE**

A new FORTRAN H compiler update package containing solutions to 56 APARs is now available. This material is being shipped now so that customers can benefit from a large number of APAR corrections in one package as early as possible. In addition, it provides a simple method of FORTRAN updating without a complete system generation.

Contents --The package consists of:

A 9-track DTR (800 or 1600 bpi) or 7-track DTR
(800 cpi Data Conversion feature required)
Memo to users
Maintenance Prose
Basic Program Material List
Attachment (Applying the FORTRAN Update
package)

It contains 61 replacement modules for the FORTRAN H compiler.

Special action -- The prerequisite for application of this update package is the FORTRAN H compiler as generated from OS/360 Release 15/16. It obsoletes all FORTRAN H compiler PTFs available on Release 15/16 prior to December 16. Those users who have generated the Release 15/16 compiler on Release 14 can apply the update package to their system.

The Optional Program Modification (OPM 0003) can not be used with FORTRAN H after the application of the Update Package. This package removes the effect of the OPM if it was applied to the Release 15/16 compiler.

Note: The OPM will not be supplied for FORTRAN E, G or H after Release 15/16.

The Optional Program Material consisting of condensed Symbolic Library for FORTRAN H has not been updated for this Maintenance Package. However, the Distribution Volume 3 associated with Release 15/16 for FORTRAN H remains available. Updating will take place at the next system release.

Distribution -- The update package will be distributed automatically to all current FORTRAN H users from PID by January 15.

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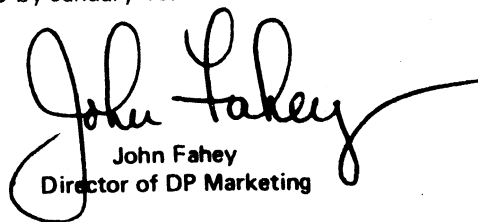
- 11) All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.
- 12) Advance copies of the form numbered publications mentioned in the 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 latter, availability will be announced in the Weekly DP Marketing Publications Release Letter.
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- 14) Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- 15) All references made to the Program Information Department (PID) should be understood to mean the appropriate WT Program Library.
- 16) 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).
- 17) 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.
- 18) 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.**

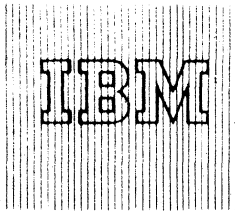
Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Attachment: P 9035

Release Date: January 14, 1969
Distribution: All Areas


John Fahey
Director of DP Marketing



**CONTROL SUBSYSTEM UNDER DOS/360
AVAILABLE (PART OF RETAIL IMPACT
STAPLE SYSTEM, TYPE II)**

The Control Subsystem of the Retail IMPACT Staple System (360A-DR-09X) under DOS/360 may now be ordered; shipments will begin the week ending January 31. The program is designed for the retail industry. It can be used to create purchase orders, control merchandise on order, and monitor the performance of the system in terms of inventory and level of service.

This program can be used as a stand-alone system by users with limited inventory management needs or in conjunction with the Forecasting and Simulation Subsystem under OS by users who desire a comprehensive inventory management system. It is particularly advantageous for users who wish to begin data collection and inventory control operations now as a step toward later installation of a complete Staple System.

Optimum use of the system is achieved by the daily processing of sales and merchandising information. For classes of merchandise or departments where the collection of daily SKU data is not feasible, stock counts may be used to derive periodic sales.

Details are on the reverse side.

**PROCEDURE TO USE IN ORDERING 1130
RIGID FRAME SELECTION PROGRAM (TYPE II)**

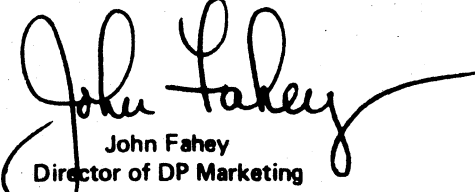
Note to World Trade Readers

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.

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- 18 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.**

Program Announcement P68-172 states that 1130 RFSP will be available 1/31/69 under a controlled release procedure.

The procedure to be followed in requesting this program is in Memorandum to DP Branch Managers B69-19.



John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

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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.

OS Fashion System	(360A-DR-04X)
OS Staple System (control, forecasting, and simulation subsystems)	(360A-DR-05X)
DOS Fashion System	(360A-DR-08X)
DOS Staple System* (control subsystem 65K)	(360A-DR-09X)

*Version 2 (control subsystem 65K plus forecasting 131K and simulation 131K subsystems) to be available 4/30/69.

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 tailored to the needs of the retail industry. It 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 is 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 time ... 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 System which employs adaptive forecasting, probability and statistical analysis 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 reorder, 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 overall 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 ... 8-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, PL/I and Staple Control Subsystem under DOS/360, PL/I: System/360 Model F30 (64K) with Decimal Arithmetic (#3237), Floating Point Arithmetic (#4427), 1051 Attachment (#7915) ... 1051 Control Unit Model N1 with 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 Fashion under DOS/360, PL/I: System/360 Model ED25 (48K) with Floating Point Arithmetic (#4427), 1052 Printer-Keyboard Model 7, Selector Channel (#6960), 1442 Card Read Punch Model N1, 1443 Printer Model N1 with Selective Character Set (#6402) and 63 Character Set Type Bar (#9089)* ... 24 Additional Print Positions (#5558), Integrated 2311 Attachment (#4598), 2311 Disk Storage Drives (4 required),** 2415 Magnetic Tape Unit and Control 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 G40 (128K) 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 ON2 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):

Publications¹ -- Application Directory ... Program Description Manual (H20-0480) ... Operations Manual (H20-0481).

Machine Readable^{2*} -- Source programs with narrative and sample problem decks 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 for 360A-DR-04X:

Machine Readable^{2**} -- 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).

Basic Program Material for Retail IMPACT Staple System/OS (360A-DR-05X):

Publications¹ -- Application Directory ... Program Description Manual (H20-0591) ... Operations Manual (H20-0593).

Machine Readable^{2***} -- Source programs with narrative, sample problem, and flowcharts are available on one 9-track 2400' reel (800 or 1600 bpi) or one 7-track 2400' reel (800 cpi - Data Conversion Feature required).

Basic Program Material for Retail IMPACT Fashion System/DOS (360A-DR-08X):

Publications¹ -- Application Directory ... Program Description Manual (H20-0540) ... Operations Manual (H20-0541).

Machine Readable^{2*} -- Source programs with narrative and sample problem decks 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 for 360A-DR-08X:

Machine Readable^{2**} -- 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).

Basic Program Material for Retail IMPACT Staple System/DOS (360A-DR-09X):

Publications¹ -- Application Directory ... Program Description Manual (H20-0599) ... Operations Manual (H20-0592).

Machine Readable^{2***} -- Source programs with narrative, sample problem, and flowcharts are available on one 9-track 2400' reel (800 or 1600 bpi) or one 7-track 2400' reel (800 cpi - Data Conversion Feature required).

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

¹If only the publications are required, order from IBM Distribution Center, Mechanicsburg -- not from PID.

^{2*}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.

^{2**}Magnetic tape (2400') may be forwarded or ordered. The program order card should accompany the tape order form. If the track density requirements are not specified on the back of 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.

**TSS/360 IMPROVED WITH AVAILABILITY OF VERSION 4**

Version 4 of Time Sharing System/360 provides incremental improvements in these areas:

Human Factors ... Increased conversational processing convenience with new and revised commands ... improved system-to-operator communication ... simplified requirements for initiating BULKIO (bulk input/output) jobs

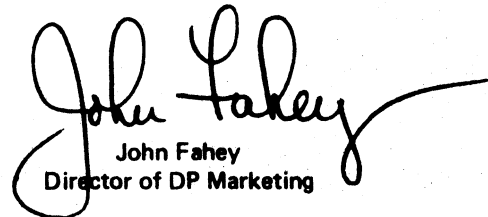
Performance ... Reduced system overhead and increased background job throughput with a new scheduling concept and modifications to the Supervisor and Command System II ... assignment by installations of their own scheduling parameters and ranges of priorities for tasks in the system ... execution of multiple bulk input/output jobs from a single task

Reliability and Serviceability ... Additional safeguards in device management, data set protection, and ABEND processing ... improved error recovery procedures for BULKIO tasks

FORTRAN Function ... Added module linking ... improved listing content

Maintenance ... Solutions to 95 APARs

Details of the above, including engineering changes, reference material, basic program material, ordering instructions, and additional program support material are on the inside pages.



John Fahey
Director of DP Marketing

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Published by DP Sales Publishing Services, WTHQ

Release Date: January 20, 1969
Distribution: All Areas

Human Factors

Modification of the EDIT, DSS?, ERASE, and DELETE commands, addition of the PC? command, and a new terminal line-canceling function improve and simplify conversational use of TSS/360.

The CANCEL function of the IBM 1052 is now supported by TSS, and can be used to cancel input lines.

A new command, PC? (present catalog), allows display of user-catalog information ... data set name ... access ... owner identification (for shared data sets).

The EDIT command can now be used with a simplified definition of the data to be edited.

The DSS? (data set status) output format has been improved and additional messages have been provided to make this command more meaningful to the user.

The ERASE and DELETE commands can now be used without confirmation and with all parameters defaulted. Associated messages have been simplified, and extraneous messages have been removed.

Redesign of BULKIO and the Operator Task, in addition to improved performance and R & S, increases system operator efficiency.

More-comprehensive messages keep the operator well informed about the disposition of work assigned to BULKIO.

BULKIO job initiation is simplified by replacing the RC (read cards) command with the Reader Start function of the card reader, and by eliminating the LOGON requirement for bulk input/output jobs.

Performance

A *Table Driven Scheduler* provides installation control and dynamic regulation of scheduling parameters, for complete flexibility in obtaining optimum scheduling balance within and among tasks.

As many as 256 levels of scheduling parameters (such as length of time slice) can be defined and allocated among priorities for different task requirements, as determined by the installation.

Within priority limits imposed by the installation, each task (including background tasks) can be assigned and dynamically reassigned within a full range of scheduling levels.

Dispatcher overhead is minimized, available CPU time is used more efficiently, and background job throughput is increased.

Supervisor modifications result in a number of performance improvements:

Better service for conversational tasks with small paging requirements.

Improved response time for conversational tasks.

Quicker release of interlocks and improved service to tasks awaiting interlocks.

More accurate regulation of the number of tasks in dispatchable list.

More efficient scanning and purging of shared pages.

Reduced supervisor time for batch processing.

Command System II has been modified to reduce paging.

Time-slice ends and the consequent forced paging demands have been materially reduced by more efficient use of the Terminal Access Method.

Often-used commands no longer require the dynamic loader to be invoked.

Twelve page references are saved by not invoking the dynamic loader when a command is repeated.

Paging efficiency has also been gained by a CSECT packing option that allows dynamic combination of CSECTs into a single page at execution time.

The number of system tasks has been reduced by combining the Batch Monitor with the Operator Task, and by executing all bulk input/output jobs within a single BULKIO task.

Reliability and Serviceability

The integrity of data has been further protected:

Deletion of Initial Virtual Memory by user tasks is prevented.

Rules for private data sets are enforced by making these data sets available to tasks on a first come first served basis. A task that attempts to open an already opened private data set will be ABENDED.

Device Management and external storage use have been improved:

Loss of devices when an ABEND condition occurs is prevented.

All devices assigned to a task are released during logoff.

Volume handling is reduced.

External storage space is now allocated on a per-

user basis, with a limit to the amount of space available to each task.

ABEND improvements in this release are:

The added ability of certain virtual memory tasks to specify their own ABEND processors.

Printing of an ABEND message on the operator's console when a task is being deleted because of an ABEND condition.

BULKIO will attempt to recover from errors it detects, and will inform the operator of the error and the action taken.

FORTRAN Function

Improvements result from modification of the Linkage Editor and the FORTRAN compiler:

Two main programs can be link-edited together.

A Block Data program and a main program can be link-edited together, if the main program contains the same common name.

A "Table of Initialized Variables" is included in FORTRAN object code listings.

Maintenance

Version 4 contains solutions to 95 APARs.

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 mdl 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 360G Programming Pages" in the Sales Manual for additional hardware features and RPOs required.

Minimum Supported Engineering Change Levels

The following engineering change levels are a requisite for correct operation of the Time Sharing System.

<u>UNIT</u>	<u>E. C. LEVEL</u>	<u>ECA</u>
2067-1,2*	709588	49 (except 46, 47)
2365A-12	258121	14
2365-12	258484	70
2365A-2	258484	14

<u>UNIT</u>	<u>E. C. LEVEL</u>	<u>ECA</u>
2365-2	258484	59
2846	705355	5
2860	705862	56
2870	710645	31
2870A	705853	27
2167	N/A	N/A

*In addition; Retain 2067-2, 2067-19 and 2067-20 and service aid 55 apply for the 2067-1,2. If 32 bit feature is used, Retain 2067-16 must be employed also.

Reference Material

Assembler Language, C28-2000-2 with TNLs N28-3000, N28-3015, N28-3034, N28-3047** ... Command System Users Guide*, C28-2001-3 ... Concepts and Facilities, C28-2003-3 with TNL N28-3048** ... Assembler User Macro Instructions, C28-2004-2 with TNL N28-3038** ... Linkage Editor, C28-2005-2 with TNL N28-3040** ... Time Sharing Support System, C28-2006-0 ... FORTRAN IV, C28-2007-1 with TNLs N28-3007, N28-3023, N28-3036, N28-3045** ... System Programmers Guide*, C28-2008-1 ... Terminal Users Guide, C28-2017-2 with TNL N28-3044** ... FORTRAN Programmers Guide, C28-2025-2 with TNL N28-3039** ... FORTRAN IV Supplied Subprograms*, C28-2026-1 ... Assembler Programmers Guide, C28-2032-2 with TNL N28-3037** ... Master Index, C28-2023-1.

Basic Program Material

System Generation and Maintenance, C28-2010-3 with TNL N28-3042** ... Managers and Administrators Guide, C28-2024-1 ... Operators Guide*, C28-2033-4 ... System Messages, C28-2037-3 with TNLs N28-3046**, N28-3049** ... Independent Utilities, C28-2038-0 with TNLs N28-3002, N28-3024, N28-3033 ... Addendum*, C28-2043-5 ... IBM System/360 Basic Programming Support Operating Guide - Card and Tape Utility Program, C24-5027-3 with TNL N28-2337.

* Denotes change with this version

** New Item

Documentation -- Program Material List ... Methods of Printing the TSS System Prose.

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.

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 local branch office. Current users should use this prepunched program order card to order the new version.

When ordering the TSS/360, the requester receives 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 order 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 of the publications are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

Magnetic tapes (2400 foot) may be ordered or forwarded in accordance with current procedure as described in the DP Sales Activity Section of the Branch Office Manual.

Additional Program Support Material

All of the optional program components are available on three (2400 foot) source tapes. Each group of components, identified below by a Distribution Volume Number, is distributed as a physical sequential data set on 9-track 800 bpi unlabeled tapes. See sales manual page P360.5 for additional information before ordering.

Distribution

Program Number Program Component Name

1	CEA - Supervisor CEH - Time Sharing Support System CEI -- Auxiliary Programs CGC - Service Routines CHB - System Tables
2	CEC - Access Methods CEY - Linkage Editor CFA - Command System
3	CEB - Independent Utilities

CEK - FORTRAN Compiler
CEV - Assembler
CHC - FORTRAN Library Subroutines
CMA - Diagnostics

Program Logic Manual

Available from IBM Distribution Center, Mechanicsburg.

System Logic Summary, Y28-2009-1 with TNL Y28-3094** ... System Control Blocks, Y28-2011-3 with TNL Y28-3092** ... Resident Supervisor, Y28-2012-2* ... Command System, Y28-2013-2* ... Program Control System (PCS), Y28-2014-1 ... System Generation and Maintenance (SYSGEN), Y28-2015-3 with TNL Y28-3093** ... Access Methods, Y28-2016-1 with TNLS Y28-3084, Y28-3088** ... System Service Routines, Y28-2018-0 with TNLS Y28-3056, Y28-3070, Y28-3077, Y28-3089, Y28-3095** ... FORTRAN IV, Y28-2019-0 with TNLS Y28-3057, Y28-3068, Y28-3082, Y28-3087, Y28-3091** ... Assembler, Y28-2021-0 with TNLS Y28-3058, Y28-3067, Y28-3080 ... Linkage Editor, Y28-2030-1 with TNL Y28-3083** ... Dynamic Loader, Y28-2031-1* ... Independent Utilities, Y28-2039-1 with TNL Y28-3073 ... Task Monitor, Y28-2041-1 with TNLS Y28-3085, Y28-3096 ... On-Line Test System (OLTS), Y28-2042-1 with TNL Y28-3069 ... Time Sharing Support System, Y28-2022-0 with TNL Y28-3090**

* Denotes change with this version

** New Item

Program Listings

Group Code 9030 is used to order all Time Sharing listings. These are not separately orderable groups.

Microfiche update service will be provided. This service will be discontinued by submitting an order to do so. The listings are the equivalent of output listings produced by assembling the symbolic modules.



**TYPE II PROGRAM IN PL/I AVAILABLE
FOR SCIENTISTS AND ENGINEERS**

System/360 Scientific Subroutine Package for PL/I (SSP/360 PL/I) is now available (360A-CM-07X).

It provides a powerful computational method to scientists and engineers in the PL/I language. Now PL/I users can have most of the basic capabilities which were provided to FORTRAN users in earlier versions of SSP/360.

SSP/360 PL/I consists of a collection of mathematical and statistical subroutines, input/output free, which can be combined with a user's input, output and computational routines to meet his individual requirements. The subroutines are written in the PL/I language using the 48-character set and the facilities provided by the PL/I (F) compiler, which functions under Operating System/360. Most of the subroutines provide a double-precision option.

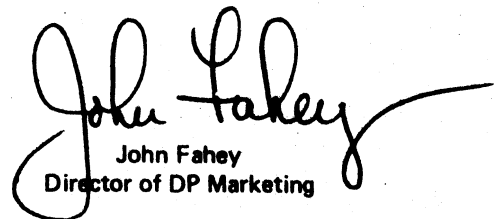
SSP/360 PL/I includes a wide variety of subroutines which perform the following functions: matrix and polynomial operations, numerical quadrature, numerical differentiation, interpolation, approximation, smoothing, solution of equations, special functions, and statistical capabilities such as multiple regression, canonical correlation, analysis of variance, discriminant analysis, principal components analysis, non-parametric statistics and distribution functions.

See the reverse side for detailed information.

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.

- 11) 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.
- 12) 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 latter, availability will be announced in the Weekly DP Marketing Publications Release Letter.
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- 14) Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- 15) All references made to the Program Information Department (PID) should be understood to mean the appropriate WT Program Library.
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John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

Scientific Subroutine Package (SSP) for PL/I: SSP makes available in the PL/I language a powerful computational ability for the scientist and engineer.

It provides the PL/I user with most of the basic capabilities which were provided to the FORTRAN user in earlier versions of SSP/360. (360A-CM-07X).

Description: This package provides a basic mathematical and statistical subroutine or procedure library. The library includes a wide variety of subroutines which perform the following functions:

Mathematics -- matrix operations (elementary, linear equations, eigenvalues) ... polynomial operations (orthogonal polynomials, polynomial economization, polynomial roots) ... numerical quadrature (tabulated functions, non-tabulated functions) ... numerical differentiation (tabulated functions, non-tabulated functions) ... interpolation ... approximation ... smoothing ... roots & extrema ... ordinary differential equations ... special functions.

Statistics -- data screening & analysis ... elementary statistics ... correlation & regression (correlation, multiple linear regression, stepwise multiple regression, canonical correlation) ... analysis of variance ... discriminant analysis ... principal components analysis ... non-parametric statistics ... distribution functions.

Features:

- . All subroutines are free of input/output statements.
- . All subroutines are written in OS/360 PL/I (F).
- . Most of the subroutines provide a double-precision option.
- . The use of certain subroutines (or groups of them) is illustrated in the program documentation by sample main programs with input/output.
- . All subroutines are documented uniformly.

Use: The user may incorporate any subroutine from the SSP PL/I package in his own PL/I program by using the PL/I procedure CALL statement, just as he does with his own subroutines.

Customer Responsibilities: The customer must be familiar with the System/360 PL/I language, and Operating System/360.

Programming Systems: The subroutines are written in the PL/I language using the 48-character set and the facilities provided by the PL/I (F) compiler, which functions under Operating System/360.

Minimum Machine Configuration: A minimum requirement is a System/360 suitable for the OS/360 PL/I (F) compiler. The storage capacity for any given problem depends upon the number of subroutines used, the size of the compiled subroutines, the size of the compiled main program, the size of the control program, and the data storage requirements.

Basic Program Material:

Publications -- Application Directory ... Program Description and Operations Manual (H20-0586-0). The Program Description and Operations Manual combines the material which would normally be presented in the Program Description Manual, the Operations Manual, and the Systems Manual. If only the form numbered manual is required, order from the IBM Distribution Center, Mechanicsburg -- not from PID.

Machine Readable -- The PL/I source statement cards for all subroutines and the sample program source decks with data are available on one 9-track Distribution Tape Reel (DTR) (800 or 1600 bpi) or one 7-track DTR (800 cpi) (Data Conversion feature is required).

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

Ordering Procedure: See the Branch Office Manual, DP Sales Activity section.

Additional Program Support Material: Application Description Manual (H20-0544-1).

Reference Material: System/360 Scientific Subroutine Package (360A-CM-03X) Programmer's Manual (H20-0205) ... IBM System/360 Operating System PL/I (F), Reference Manual (C28-8201) ... IBM System/360 Operating System PL/I (F), Programmer's Guide (C28-6594) ... Preface to PL/I Programming in Scientific Computing (E20-0312-0).

For further information contact your Regional or District Scientific Marketing Representative.

**I/O RECOVERY MANAGEMENT SUPPORT
(I/O RMS) PROVIDED FOR OS/360 - MFT II,
MVT AND MODEL 65 MULTIPROCESSING**

The Input/Output error recovery capability is extended to improve the availability and reliability for all S/360 Models using OS/360 MFT and MVT including Model 65 Multiprocessing as a SYSGEN option. The support solves a wide range of I/O problems encountered due to channel, control unit, device and media failures. It enhances system throughput by reducing the chances that an I/O failure situation would require a rerun.

This support, to be provided by June 30, 1970, consists of two functional parts which can be optionally selected for MFT and MVT. They are Alternate Path Retry (APR), and Dynamic Device Reconfiguration (DDR).

Alternate Path Retry allows an I/O operation that has developed an error on one channel to be retried on another, if there is another channel assigned to the device performing the I/O operation.

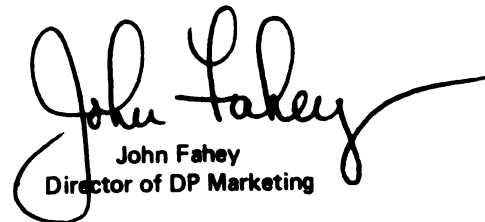
Dynamic Device Reconfiguration allows a demountable volume to be moved from one device to another, and repositioned if necessary, without terminating the system or the job.

See the reverse side for details, performance and minimum system requirements.

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Director of DP Marketing

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Alternate Path Retry -- Allows an I/O operation that has developed an error on one channel to be retried on another if there is another channel assigned to the device performing the I/O operation. A maximum of four paths are supported to any one device. APR ensures that a different channel will be tried on retry of channel-detected errors. APR also provides the capability for the operator to vary a path to a device online or offline by his use of the VARY PATH command.

In order for APR to handle channel control checks and interface control checks, Channel Check Handler (CCH) must be included in the system. Without CCH, only channel data checks are handled by APR. CCH is a part of the Recovery Management Support announced in P68-2 for Model 65, and P68-44 for Model 85.

Dynamic Device Reconfiguration -- Allows a demountable volume to be moved from one device to another and repositioned if necessary without terminating the system or the job. A DDR for these devices can be requested by the system, or by the operator, when a permanent error condition exists while a job is using a demountable device. Also, a volume can be demounted for cleaning and then remounted on the same device. A DDR for readers, printers, and punches can be requested by the operator during "INTERVENTION REQ" conditions. The operator may cause an "INTERVENTION REQ" condition by making the unit not-ready. Two new commands, SWAP and NOSWAP, allow the operator to use the facilities of DDR. Dynamic Device Reconfiguration, also optionally, includes support of the SYSRES device and of user-written non-standard label routines for use in tape repositioning.

The permanent errors that are eligible for DDR include bus-out and chaining checks, channel data checks, channel control checks, overrun and interface control checks, equipment checks, seek checks and data checks. When the permanent error is caused by a channel program error, such as a command reject, DDR will not be requested. Other conditions that may set a permanent error status but are not eligible for DDR include wrong length record, no record found, and back spacing beyond the load point on tape.

SYSGEN Requirements -- To make use of the functions of I/O RMS, the user must indicate the functions that he desires during SYSGEN. The options available are:

- APR-to include Alternate Path Retry
- DDR-to include Dynamic Device Reconfiguration
- APR and DDR are optional for MFT and MVT. Both options are included for Model 65 Multiprocessing
- DDRSYS-to include DDR SYSRES support
- DDRNSL-to include DDR Non-Standard Label Support

DDRSYS should be chosen only if the user has a demountable SYSRES device because additional resident code will be required. The user must write his own non-standard label routine for DDRNSL. DDR will provide the necessary interface.

Operator Responsibilities -- For APR, the operator may use the VARY PATH command to vary a path to a device online or offline.

For DDR, the operator may reply SWAP or NOSWAP. With SWAP, he can indicate the devices he wishes to move the volume "from" and "to". The operator can cause additional retries on the same device by specifying the same device for the "from" and "to." NOSWAP is used if he chooses not to swap after a permanent error. The operator may request DDR on a device at any time while a job is in process on that device by the use of the SWAP command. This will permit a device to be serviced while the job continues.

Performance -- Alternate Path Retry enhances the performance of OS/360 by reducing the chances of a permanent error being caused by a single faulty path.

Dynamic Device Reconfiguration enhances the performance of OS/360 by reducing the number of permanent I/O errors that, in most cases, cause the problem program to ABEND, and by possibly preventing system termination caused when a critical supervisor function encounters a permanent I/O error. Thus, total throughput per day can be increased by the decrease of rerun time.

Minimum Systems Requirement -- I/O RMS is designed to function as a part of MFT or MVT, including the Model 65 Multiprocessing Control Program. The devices DDR support are: 2400 series, 2311, 2314, 2321, and readers, punches, and printers.

The external storage requirements currently estimated are:

APR	1230 bytes
DDR	7900 bytes

Resident Core Requirements by Option:

	<u>MVT</u>	<u>MFT</u>
APR	200	200
DDR	220	170
DDR with DDR SYSRES	780	730
Total Resident Code	980 bytes*	

* 560 bytes are optionally included when the DDR SYSRES option is selected.

Publications -- The primary documentation will consist of changes and additions to the I/O Supervisor PLM (Y28-6616).

Performance improvements of up to 12% can be expected for large file sorts on 2301 or 2311 and up to 20% for small file sorts utilizing a 2314.

COMPILER AND LANGUAGE SUPPORT IMPROVEMENTS

PL/I

Object code efficiency has been improved for RECORD I/O statements and for the "Then go to ... or else go to ..." forms of the IF statements. Additional capabilities have been provided by supporting repositioning for reads of an ISAM file; user control of DD NAMES for PL/I SORT data sets. Improved usability is provided by modification of the cataloged procedures and revision of the XREF tables for BASED items. SYSLIN and SYSPUNCH data set block sizes will be made a function of the compiler SIZE option specified.

COBOL F

The facility is now available to override block size at object time by a DD card specification. DD card information is checked after each OPEN and appropriate diagnostic message produced if data is missing. If an E level message is generated by the compiler, PMAP link edit and punch decks may be optionally suppressed. Additional PARM options are added to provide DMAP-PMAP separation and condensed object code listing.

COBOL E

The COBOL E Compiler is supported under MVT.

FORTRAN

I/O performance is improved for unformatted operations. Logical backspace for V and F type blocked records has been implemented. Tape file protection is available at object time reducing the operator intervention necessary for input only data sets. In addition, FORTRAN can process a partitioned data set for input or output, and expiration date and password protection are provided. A major functional improvement is the addition of a series of FORTRAN subroutines to facilitate data transmission between a System/360 and an 1130 system.

RPG

RPG has been extended to include VRE support for sequential input and output files, ability to supply a job related date at object time, and complete device support for QSAM, ISAM, and BDAM files.

Linkage Editor F

The number of allowable aliases has been increased from 5 to 16 for output modules. The user has the ability to fix the block size to achieve proper output blocksize alignment for a device or for his own logical requirements.

DATA MANAGEMENT AND DEVICE CAPABILITIES

2420 Model 7 Tape Unit

The 2420 Model 7 Tape Unit is supported in Release 17 documentation.

BTAM

Support has been extended to include the USASCII code feature for the 2780 Data Transmission Terminal and a BSC connection to a System/360 Model 20. To be supported the Model 20 must be using BSCA IOCS.

User Labels

This option allows the user to create up to eight 80-byte records which are written along with header and trailer labels for sequential data sets. This option also allows the user to examine and update his additional labels.

SAM - Variable Record Extensions

The extended V format provides the ability to span a logical record over more than one physical record.

VRE and User Label Support in Utilities

Support similar to the above two paragraphs has been added to the utilities.

BTAM/QTAM WTCTTY

Support for World Trade Telegraph terminals has been incorporated in Release 17.

BISAM - Automatic FREEDBUF

BISAM returns any buffer automatically to the buffer pool if that buffer is attempted to be used by two consecutive READ K or READ KU with no intervening FREEDBUF or WRITE K.

Graphics

Additional parameters have been added for 2250 support to Specify Job Step Frame to permit modification of priority and region size. Column markers have been added to the Enter Data Frame to enable the 2250 user to locate the significant columns in the input area. Wherever possible, a message appears on the screen when GJP terminates because of internal error or hardware malfunction. The Graphic Subroutine Package is CALLable from PL/I and COBOL as well as FOR-TRAN. Basic graphics give the user the option to take action on error conditions and thus remove the automatic ABEND situation.

Additional Shared File Support

Shared DASD support has been supplemented to include these control units and devices - 2841/2303, 2321 and 2820/2301.

Improved Scheduler DADSM Interface

With this improvement, the request for volume affinity to a non-specific data set is honored or the job cancelled.

IMPROVED OPERATIONAL CHARACTERISTICS

Available Space

The amount of available space on a volume is optionally provided at dismount time in a response to an addition to the Display command.

STEPLIB

The ability to specify a step program library is provided. Program libraries may now be specified as part of cataloged procedures. The DDNAME//STEPLIB is reserved for this purpose. If a job library is present in the job, the step library will replace it for the step.

Blocked PROCLIB/PARMLIB

The Blocked PROCLIB portion of this improvement allows the user to block his PROCLIB to any desired size in multiples of 80. PARMLIB is a new system data set which contains RAM, BLDL, RSVC and PRESRES lists.

Punch Check Recovery

QSAM provides punch check recovery for the 2540 if three or more buffers are specified by the user. Two blank cards will be 'PUNCHED' after the last buffer

has been cleared to guarantee proper recovery in case of error in either of the last two cards.

IOS Error Messages

More information is provided in the console message when a permanent I/O error occurs. Verbal descriptions, job name (if it can be determined) and block count and/or volume serial are included in the message.

Increased Retry - 2540

The number of retries has been increased from one to five.

SYS1.ACCT Data Set for MFT/MVT

The SYS1.ACCT data set is available to the MFT and MVT user for job accounting.

Work Dispositions

Unused direct access space (SYSOUT data sets containing no data) is returned to the system at step termination time instead of at SYSOUT Writer time.

Improved Allocation Error Messages

The OFFLINE form OS message IEF 2741 contains up to ten device names per line and the SYSIN/SYSOUT form contains up to nine device names per line.

Special Characters in JCL

The use of special characters has been extended in JCL.

Extended PARM Field

Up to 100 characters of control information may be passed to a processing program.

Extension to RESET Command

Priority of system output jobs may be changed and jobs may be moved between input or output queues.

Blocked SYSIN - Blocked SYSIN/SYSPRINT is now supported in all OS Utilities.

Data Set Generator - This new data set utility can be used to create test data sets for the debugging of programs. Data sets may be created or existing data sets modified.

IMPROVED PERFORMANCE

MVT Non-Interpreting Reader (Spool Splitter)

This reader (16K) separates the initial reading of the input stream and the spooling of SYSIN data sets from the interpretation of JCL. The 36K bytes of dedicated core for the interpretation routine are no longer required. After a number of jobs are accumulated, a temporary region is obtained for these interpretation routines. These routines are now 70K to improve performance and will be in core for a very small fraction of the time previously required.

Reduced Tape Error Recovery

This improvement allows the user to request only minimal error recovery action to be taken by the system, thus reducing the amount of time spent on permanent errors, where tapes containing such errors are planned to be used in an installation.

Read Opposite

Allows rereading of tape in opposite direction when a read operation has been unsuccessful and recovery is being attempted.

ABEND - Unmounted Control Volume

If a programmer uses a data set cataloged on his own control volume, he must place pointers corresponding to his high level index names in the IPL volume's SYSCTLG data set. Formerly, to prevent failure of his job, his control volume had to be mounted when his job was initiated. With the improvement, the system requests that the required control volume be mounted when it is needed for locating a data set.

If the user wishes to prevent the failure of his job by having an auxiliary control volume mounted dynamically at step initiation time, he is required to "disconnect" all auxiliary control volumes which had been connected by previous releases, and "reconnect" these volumes with the current system.

Flush Data after DD DATA in PCP

The Scheduler flushes data which is not read by the problem program and follows a DD DATA statement. This allows steps after a problem program ABEND to be executed when using Execute Step after ABEND option.

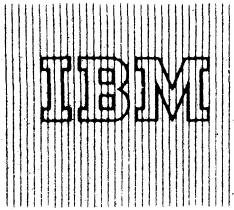
Command Chaining in SYSOUT Writer

The optional selection of command chaining provides a performance improvement in the SYSOUT writer. An EXCP routine, which uses command chaining for printing or punching, is used: when the output writer uses machine control characters, when more than three output buffers are specified, PCI is not used by the output writer, and the writer has been started to a unit record device.

SYSTEM CONSIDERATIONS

Minimum Design Points

The recommended minimum nucleus for an MFT System has increased in Release 17 over that needed in Release 15/16. Enhancements to system availability and reliability, plus functional improvements contributed to this increase. The minimum requirement is now 32K or 34K depending on whether SERO or SER1 is selected. For details, see the MFT Planning Guide (C27-6939) and Storage Estimate (C28-6551) SRLs.



OS/360 LOADER: IMPROVED PERFORMANCE IN COMPILE-LOAD-GO ENVIRONMENT

Preliminary measurements show that an average improvement of 47% in edit processing time plus an average reduction of 35% in scheduling time are possible using the OS/360 LOADER in a compile-load-go environment.

Availability -- October 31, 1969.

The LOADER combines the basic editing and loading functions of the linkage editor and program loading (fetch) in one job step. It loads object modules produced by the language processor and load modules produced by the linkage editor directly into main storage for immediate execution. The LOADER is supported under PCP, MFT and MVT. It will be re-entrant so that it can reside in the link pack area of MVT to further enhance performance.

The timings in this announcement are based upon preliminary measurements made on a System/360 Model 50 using Release 15/16 MVT with residence on a 2314 for a series of FORTRAN and PL/I compile-load-go runs.

Performance improvements result from:

Improvement in Edit Processing

The LOADER eliminates the need for the intermediate I/O currently required by Linkage Editor. In addition, LOADER I/O time has been reduced by improved buffering techniques and the use of chained scheduling. These improvements may result in a 15% to 60% savings in the time required to edit the program as compared to Linkage Editor F (88K).

Reduction in Scheduling Time

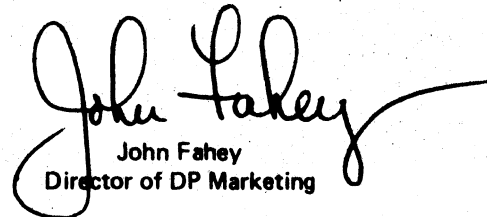
When using the link editor in a compile link edit and go environment, three steps must be scheduled. When using LOADER, the link edit and go functions are scheduled as a single job step with a possible 15% to 45% reduction in the scheduler portion of the job time.

The performance of the loaded programs is the same as programs link-edited in one step and loaded in a second step.

The LOADER supports the linkage editor options, MAP, LET, NCAL and SIZE. It provides a number of additional options including library resolution from the MVT link pack area, diagnostic messages on the SYS-PRINT data set and entry point name. The LOADER does not produce load modules for program libraries, support the link edit options of LIST, XREF and XCAL, or process linkage edit control options or control statements (for example, INCLUDE, NAME, OVERLAY, etc). If these link edit options or control statements are encountered, the options are ignored by the LOADER and messages are listed on SYS-PRINT indicating that unsupported options and statements were encountered in the job stream.

The LOADER is operational in 17K bytes of main storage, plus that required for the program to be loaded. Any increase in the region or partition size is dependent upon the use of resident access methods, the MVT link pack area and the dynamic storage used by the loaded program.

The new SRL, Planning for LOADER, (C28-6702) available from the IBM Distribution Center, Mechanicsburg, should be referenced for additional details.


John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

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Distribution: All Areas

SEE REVERSE SIDE FOR
"NOTE TO WORLD
TRADE READERS"

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OS/360 MVT MODEL 65 MULTIPROCESSING SUPPORT FOR 2816, 2844, AND STORAGE RECONFIGURATION

OS/360 - MVT 65 Multiprocessing Support has been extended to provide the following additional capabilities:

2816 Switching Unit -- The Model 65 Multiprocessing system expands its support of the 2816 Switching Unit, Model 1 by providing two paths per 2065 for a maximum of four paths. Configurations allow either one 2803 Tape Control Unit with a 8100 two-channel switch from each 2065, or two 2803s (without the 8100 feature) attached to each 2065. The Model 65 Multiprocessing System must be configured symmetrically.

Availability -- 6/30/70

2844 Auxiliary Control Unit and 2314 Disk Storage Unit -- Four paths will now be available to the eight disk drives of the 2314 in a 65 Multiprocessing System. These paths for a 2314 connected to a 2844 can be divided by various combinations of the units, both with and without two-channel switches providing no more than two paths exist from any one 2065 processor. The Model 65 Multiprocessing System must be configured symmetrically.

Availability -- 6/30/70

Storage Reconfiguration for Model 65 Multiprocessing -- Storage Reconfiguration provides high system availability by permitting de-allocation of Operating System resources from an interrupted job, and by performing logical isolation of failing storage in 2048 (2K) byte elements.

Normal de-allocation of such system resources as the dynamic storage and I/O devices allocated to a given job may not be possible in the event of a machine-check interruption, because of exposure to further interrupts when referencing the failing storage area. Storage Reconfiguration determines the area in

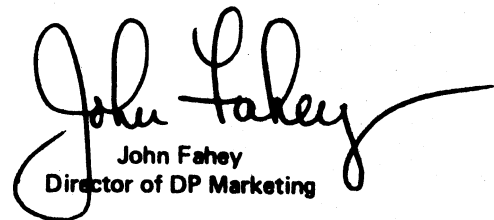
which the failure has occurred, and de-allocates the associated critical resources, allowing re-allocation of the devices for the next job when possible.

By logically isolating the failing storage area, Storage Reconfiguration frees the rest of storage to accept a new job from the job stream.

Storage Reconfiguration functions are:

- Determining the physical storage locations that are failing solidly, and isolating the failure to the 2K byte block or blocks affected.
- Determining the impact of the damage by isolating the failure to either a critical component of the Operating System (e.g., Nucleus, Master Scheduler), in which case Storage Reconfiguration cannot be implemented, or to the dynamic area.
- Performing a de-allocation of critical resources which are identified as belonging to the damaged region.
- Rendering the failing 2K blocks of storage logically unavailable to the system (for non-critical components only).
- Recording the error, as part of normal MCH recording, and printing out an operator message on the console device. The message will contain the storage address range partitioned out of the system, and the DDNAMES of those data sets which cannot be closed.

Availability -- 10/31/69


John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

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**VERSION 3 OF 7040/7044 EMULATOR PROGRAM FOR MODEL 65 AVAILABLE**

Version 3 of the 7040/7044 Emulator Program for the System/360 Model 65 (360C-EU-733) is now available.

In addition to all the features of Version 2, it includes support for 2420 Magnetic Tape Units Model 5 and 7 and 2803 Tape Control Unit Model 2.

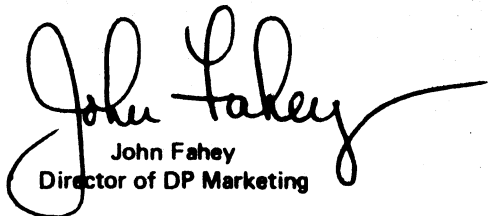
The 7040-series* Emulator Program is a stand-alone program that executes 7040-series programs on a System/360 Model 65 equipped with the Compatibility Feature (7119). It uses standard System/360 instructions and the special instructions provided by the Compatibility Feature which is added to a System/360 Model 65 to permit the execution of 7040-series programs. The Emulator Program and the Compatibility Feature combined are known as the Emulator. (Refer to the "Engineering Change Considerations" section for a list of ECs that are prerequisites for use with the 7040/7044 Emulator Program.)

The Emulator provides an efficient means of converting to System/360 by eliminating the necessity of converting all 7040-series programs before installing System/360. The Emulator allows the user to apply most of his programming resources toward developing new applications and redesigning existing applications to take full advantage of System/360 facilities.

A 32K 7040/7044 system with basic instruction set, extended performance set, single-precision floating-point, double-precision floating-point, and input/output instructions is emulated. Storage protection and the interval timer are optionally supported.

Most currently operating, non-time-dependent, 7040-series programs can be executed without modification, although certain special diagnostic and custom features are not emulated.

See the inside pages for information on performance ... system requirement ... program material ... and publications.



John Fahey
Director of DP Marketing

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* 7040-series is used collectively to refer to the 7040 and 7044, unless otherwise noted.

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The performance of the Emulator will vary according to the instructions used and the I/O activity of the emulated 7040-series program. The average internal speed of the Emulator, when executing non-I/O instructions, is approximately 1.4 times that of the IBM 7044.

Throughput performance depends on the mixture of instructions and the comparative performance of equivalent I/O devices. However, throughput time for most jobs will be approximately equal to the throughput time on the IBM 7044. Timing information that may be used to estimate throughput is presented in the publication, IBM System/360 Conversion Aids: The IBM 7040/7044 Emulator Program for IBM System/360 Model 65, C28-6585.

The basic system requirement for using the Emulator is a System/360 Model 65 equipped with: 524 K bytes of main storage ... Compatibility Feature 7119 ... A 1052 Printer-Keyboard Model 7 with 1052 Adapter (7920) or with 2150 Console ... A 2400-Series Magnetic Tape Unit (9-track, or 7-track with the Data Conversion Feature) ... Two additional units for initialization purposes from the following: 2400-Series Magnetic Tape Unit, 1442 Card Read Punch, 2501 Card Reader, 2520 Card Read Punch, or 2540 Card Read Punch. However, card read-punch facilities must be available either on- or off-line. If a 7-track 2400-Series Magnetic Tape Unit is used to contain the Edit file, the unit must be equipped with the Data Conversion Feature.

A variety of System/360 input/output devices may be used to emulate the 7040-series devices if the System/360 devices satisfy certain requirements. System/360 card read-punch units must be equipped with the Card Image Feature if the equivalent 7040 device has the Column Binary Feature.

As assembled and distributed, the Emulator supports 7040 channels A through E. Tapes on the 2870 Multiplexer Channel must be connected through selector subchannels. The maximum combined rate for tapes attached to the multiplexer channel is 360 KB.

Figure 1 shows the System/360 devices that may be used to emulate 7040-series devices.

Input/Output devices are required for Emulator-Program residence, control-information input, message output, and console functions. Figure 2 shows the System/360 devices that may be used for each of the above-mentioned functions.

<u>7040 Devices</u>	<u>System/360 Devices</u>
729 Tape Unit	2400-Series Tape Unit***
7330 Tape Unit	
1402 Card Reader	2540 Card Read Punch 1442 Card Read Punch* 2501 Card Reader 2520 Card Read Punch*
1403 Printer Console Typewriter	1052 Printer-Keyboard** 1403 Printer** 1443 Printer**
1402 Card Punch 1622 Card Punch	2540 Card Read Punch 1442 Card Read Punch* 1442 Card Punch 2520 Card Read Punch* 2520 Card Punch

* The 1442 and the 2520 can be used to emulate either the 1402 reader or punch, but not both at the same time.

** A 1052, 1403, or a 1443 can be used to emulate the printer or the typewriter, but not both at the same time.

*** 2415 Magnetic Tape Unit and Control is not supported.

Figure 1. 7040-System/360 Equivalents

<u>Emulator Function</u>	<u>Device</u>
Emulator-Program Residence	2400-Series Tape Unit*
Control-Information Input	1052 Printer-Keyboard 2400-Series Tape Unit* 2540 Card Read Punch 1442 Card Read Punch 2501 Card Reader 2520 Card Read Punch
Message Output	1052 Printer-Keyboard 1403 Printer 1443 Printer 2400-Series Tape Unit
Console Functions	1052 Printer-Keyboard

* If 7-track, the Data Conversion Feature is required.

Notes: 1. The indicated devices need not be in addition to the devices shown in Figure 1. Also, the 1052 may concurrently perform more than one Emulator function.

2. 2415 Magnetic Tape Unit is not supported.

Figure 2. Emulator Device Requirements

Reference Material ... System/360 Conversion Aids: The 7040/7044 Emulator Program for System/360 Model 65 Program Logic Manual, Y28-6599 ... System/360 System Summary, A22-6810 ... System/360 Principles of Operation, A22-6821 ... 7040-7044 Principles of Operation, A22-6649 ... System/360 Special Feature Description 709/7040,44/7090,94,9411 Compatibility Feature for System/360 Model 65, A27-2715 ... System/360 Basic Programming Support Programmer's Guide (8K tape), C24-3354 ... System/360 Basic Programming Support Operating Guide: Basic Tape System (8K), C24-3391 ... System/360 Basic Programming Support Specifications: Card and Tape Utility Programs, C24-5026 ... System/360 Basic Programming Support Operating Guide: Card and Tape Utility Programs, C24-5027

Engineering Change Considerations

Engineering Change number 705256 with Requests for Engineering Action number 14492 is a prerequisite for use with the 7040/7044 Emulator Program.

The interval timer updating accuracy may be affected unless Engineering Change number 705234 is installed.

Note: The above items apply only to System/360 Model 65s shipped prior to October 1, 1966. Installations that require any of these Engineering Changes should notify Field Engineering Technical Operations, Kingston, New York.

Hardware Restriction

In most cases, memory protect traps are delayed for one 7040 instruction cycle.

Basic Program Material

Documentation -- Program Material List.

SRL Publications -- System/360 Conversion Aids: The IBM 7040/7044 Emulator Program for IBM System/360 Model 65, C28-6585-1 and TNLs N27-1283, N27-1305, N27-1261 ... IBM System/360 Conversion Aids: Sample Problems for IBM System/360 Emulator Programs, C27-6929.

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

Machine Readable -- 7040 Emulator Object Program, the Initialization Deck, the Sample Program, and the Emulator Initialization Object Program are available

on one 9-track (800 or 1600 bpi) DTR or one 7-track (800 cpi) DTR (Data Conversion feature required).

Current users will not receive the new version automatically. Instead, they will receive a prepunched program order card and a letter announcing the new version and instructing them to order it through the branch office.

DTR's are supplied by PID -- no tape submittal is required.

The 7040 Emulator Object Program must be unblocked to 80-character records to create an object program file (PG) before being used in an Edit run to create a 7040 Emulator System Tape (EM4SYS). This file may be deblocked using the BPS/360 Tape-to-Tape Utility Program, 360P-UT-054. Writing of the initial tape mark on the output tape when using the tape-to-tape program must be prevented by using the UPSI job control card option.

The 7040 Emulator Initialization Deck and the Sample Program may be punched using the BPS/360 Tape-to-Card Utility Program, 360P-UT-053.

The 7040 Emulator Initialization Object Program must be unblocked to 80-character records to create an initialization object program file (PG) before being used to update and create a new 7040 Emulator Initialization Deck. This file may be deblocked using BPS/360 Tape-to-Tape Utility Program, 360P-UT-054. Writing of the initial tape mark on the output tape when using the tape-to-tape program must be prevented by using the UPSI job control card option.

Optional Program Material

Documentation -- Optional Program Material List ... Source Tape Assembly Operating Instructions.

Machine Readable

7040 Emulator Source Program is available on one 2400' reel of magnetic tape, either 9-track (800 or 1600 bpi) or 7-track (800 cpi, Data Conversion feature required). Included on this reel is a List Copy (LSTCPY) Program and an Update (UPDATE) Program to simplify assembly procedures.

Ordering Procedures

See the DP Sales Activity section of the Branch Office Manual. 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.

**FORTRAN AND ALGOL LCP
FOR OS/360 AVAILABLE**Note to World Trade Readers

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The FORTRAN and ALGOL Language Conversion Programs (LCP) are now available. They are an aid in translating FORTRAN and ALGOL source programs into OS/360 PL/I (F) source statements having the same meaning and effect.

These LCPs provide statement by statement assistance for conversion of programs at a source statement level.

Highlights

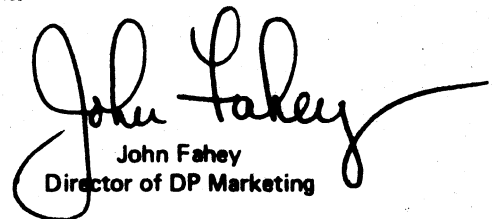
- Flags statements without PL/I equivalence or which may convert ambiguously.
- Provides PL/I program listing with conversion action messages and suggestions.
- Produces the converted programs on cards or in card images on tape or disk.

Planning Note

The programs produced by the LCPs do not necessarily exploit the PL/I language capability nor the OS/360 PL/I F level compiler characteristics. Therefore, users whose sole criterion of acceptance is the performance of the resulting PL/I programs should carefully review the quantitative data provided in P69-2.

Installations planning to use OS/360 PL/I which have FORTRAN and/or ALGOL libraries should consider the capability of these language conversion programs. Appropriate usage of these LCPs should be part of the overall transition plan. Some of the factors to be considered are included in P69-2

See the reverse side for program material and ordering instructions.


John Fahey
Director of DP Marketing

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P69-16

Reference Material: IBM Operating System/360 FORTRAN IV, C28-6515 ... IBM Operating System/360 PL/I (F) Programmer's Guide, C28-6594 ... IBM System/360 - PL/I Reference Manual, C28-8201 ... IBM Operating System/360 ALGOL Language, C28-6615 ... IBM Operating System/360 PL/I (F) Programmer's Guide C28-6594 ... IBM System/360 - PL/I Reference Manual, C28-8201.

Basic Program Material: FORTRAN LCP, 360C-CV-710 ... ALGOL LCP, 360C-CV-711.

Documentation -- Program Material List

SRL publications (appropriate to the program ordered)
-- IBM System/360 Conversion Aids: FORTRAN IV-to-PL/I Language Conversion Program for IBM System/360 Operating System, C33-2002-1 ... IBM System/360 Conversion Aids: ALGOL-to-PL/I Language Conversion Program for IBM System/360 Operating System C33-2000-1 ... with TNLs N33-7002 and N33-7004 ... N33-7001 and N33-7003.

Machine Readable Material -- Each Language Conversion Program in object deck form is available on one 9-track DTR (800 or 1600 bpi), or one 7-track DTR (800 cpi Data Conversion feature required) or one 1316 Disk Pack.

Additional Program Support Material

Program Logic Manuals -- IBM System/360 Conversion Aids: ALGOL-to-PL/I Language Conversion Program for IBM System/360 Operating System, Y33-7006-0 ... IBM System/360 Conversion Aids: FORTRAN IV-to-PL/I Language Conversion Program for IBM System/360 Operating System, Y33-7000-0.

Program Listing -- Available on microfiches from the IBM Corporation, Department 906, Highway 52 and Northwest 37th Street, Rochester, Minnesota 55901.

Specify Group Code:

4610 for FORTRAN LCP
4600 for ALGOL LCP

Optional Program Material -- Program material list LCP creation procedure. Each program in source language form available on one 2400 foot 9-track (800 or 1600 bpi) magnetic tape, or on one 2400 foot 7-track (800 cpi) magnetic tape (Data Conversion feature required).

Ordering Procedure -- Refer to the Programming Section of the DP Sales Manual.

If only the form numbered publications or additional copies of the publication are required, order them

from the IBM Distribution Center -- not from PID.

DTRs are provided; no tape submittal is required.

Disk packs must be forwarded with the program order card. If the tape format is not specified on the back of the order card, 9-track 800 bpi will be forwarded.

Magnetic tapes (2400') may be forwarded or ordered. The program order card should accompany the tape order form.



7090 SERIES INTEGRATED EMULATOR PROGRAM TO BE AVAILABLE FOR MODEL 85

The 709/7090/7094/7094II Integrated Emulator for the System/360 Model 85 will be available June 30, 1970.

The integrated emulator executes as a problem program under the System/360 Operating System, MFT or MVT option, in conjunction with the 7094 Compatibility Feature (7119). With this combination support and the machine feature a System/360 Model 85 can execute programs written for the 709, 7090, 7094, and 7094II Data Processing Systems.

Job initiation, scheduling, and resource allocation are accomplished via the services of OS/360. Input/output activity is controlled through the operating system I/O Supervisor. The operating system job control language is used for entering control information relative to devices and data sets. Additional emulator control commands provide direct communication with the emulator program.

Equipment Configuration -- The 7094 devices are emulated on a one-for-one basis by corresponding System/360 input/output devices. Minimum partition/region size for emulation is approximately 380K bytes of storage.

Speed -- Internal speed (performance of CPU instructions only, weighted by frequency of use) of the integrated emulator is approximately two times the speed of the 7094II.

Highlights -- The integrated emulator:

Executes under control of the OS/360, thus taking advantage of its multiprogramming facilities, including better utilization of system resources.

Allows the user to initiate or increase graphic processing and telecommunications applications which may have been unjustified or marginal in installations with an emulation workload.

Allows other problem programs (such as compilers, utility programs, user jobs, real-time applications, or other 7094 integrated emulators) to be executed concurrently in main storage.

Allows the user to overlap setup time for the oper-

ating system and the emulator programs.

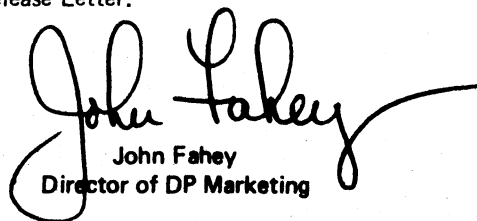
Enables the user to concentrate on the development of new applications.

Makes it possible for conversion to be put on a schedule that allows old programs to be incorporated into new applications and system approaches.

Special Note -- An interim stand-alone version of the 7094 Emulator will be available for that period between initial hardware availability and the availability date of the 7094 Integrated Emulator.

7040/7044 Emulator Withdrawn -- The previously announced Model 85 Stand-Alone 709/7040/7044/7090/7094/7094II Emulator is withdrawn. 7040/7044 emulation will not be supported on the Model 85. Customers affected should be notified.

Publications -- IBM System/360 Operating System Conversion Aids: 7094 Integrated Emulator for the Model 85 will be announced in a future Publications Release Letter.



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Director of DP Marketing

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P 69-18

PROGRAM ANNOUNCEMENT

**NEW VERSION OF APT (TYPE II)
MAY BE ORDERED**

Version 4 Modification Level 0 of the System/360 APT Numerical Control Processor (360A-CN-10X) may be ordered; shipments will begin the week ending February 14.

Version 4 contains the full capability of Version 3, and in addition has:

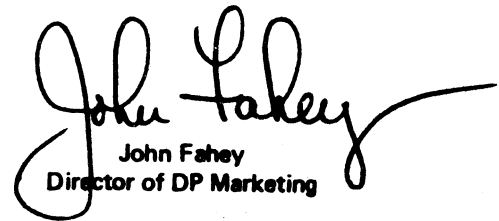
- . System macro capability to allow commonly used macros to be defined once and subsequently be available to any input part program.
- . Segment Read feature, which allows segments of part programs to be stored on direct access devices and subsequently read in and include in input part programs.
- . Revised, condensed and more legible CLPRINT format.
- . Improved Post Processor Linkage techniques which allow the implementation of non-standard post processors without revisions to the basic processor.
- . Three new computing functions for greater ease and flexibility in part programming.
- . New cutter axis control capability for multi-axis part programming (VTLAXS-WCORN).
- . Implicit subscribing for simplified part coding and improved processor performance.
- . Improved pocketing capability in that the part surface plane may optionally be used as the bottom of the pocket.
- . Additional control over feedrate resulting in significantly simpler part programming in some cases.
- . New and simpler nesting capability for point definitions.
- . Virtual elimination of arithmetic element loops by addition of code to detect and exit from loop conditions.
- . Revised Ruled Surface restrictions resulting in greater ease and flexibility of part programming.

- . Pattern definition improvements, resulting in the increase in maximum pattern size from 27 points to 330 points.

The System Manual (Y20-0080) will be available from Mechanicsburg on February 28.

Current users will receive a prepunched program order card and a letter announcing availability of Version 4. The letter instructs them to order the new version through the branch office. They should use the prepunched order card.

See the reverse side for more information.



John Fahey
Director of DP Marketing

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APT (360A-CN-10X)

Description: This processor operates as a task under control of OS/360. The APT processor accepts either BCD or EBCDIC input on any sequential system input device and allows any number of input decks (part programs) to be processed in a single job step.

The APT processor accepts an English-like language defining geometric shapes, desired motion sequences, and machining information. This input, called a part program, is converted to a meta-language containing mathematical representations of the geometric surfaces and sequential instructions directing the movement of a cutting device with respect to the defined surfaces.

The processor will then analytically or iteratively calculate points on the cutting device axis at the tip of the device (bottom center of the cutting device). The resultant motions will always be straight line motions whose length is determined by specified tolerance criteria. These points are then available to a user-supplied post processor which must insure that they conform to the characteristics and dynamics of a particular N/C device.

The APT processor is also capable of modifying the cutter axis to conform to part program specifications. When the processor is in a multi-axis (4 or 5 axis) environment, the output data will also contain the unit vector representing the cutter axis for each output point.

The user is supplied with a listing of the part program and optionally a listing of the cutter center points and machining information. He must also specify which post processors are to be called to process the output from the APT processor.

Features:

- Double precision calculations are used throughout the processor to improve reliability and extend the range of usable numbers.
- An analytical processing technique calculates start-up positions and non-iterative solutions for motion sequences involving vertical planes or cylinders for drive and check surfaces and non-vertical planes for part surfaces. This technique significantly reduces the processing time for these cases.
- The data handling technique for the POCKET feature has been designed to provide efficient usage of work files.
- An internal statement number is assigned by the processor and referenced by output listings and error messages.
- A debugging facility has been included in the processor to assist computer programmers in locating problem areas.
- The level of nesting allowed for MACRO's is five. The number of MACRO variables allowed is 50.
- The storage requirements for resident tables are predetermined and the space dynamically allocated to reduce the requirement for programmer manipulation.
- Reliability of the processor, particularly ARELEM is the primary design criterion.
- Dummy call structures are provided to assist with interfacing of special user programs.
- The redefinition of variable symbols as another surface of the same type without the inclusion of the CANON modifier in the surface definition is permitted via a modal CANON/ON - CANON/OFF command.
- The core storage requirements for each MACRO are printed.
- Post processors are created as separate load modules and may be added or modified without re-link editing other post processors or any other component of the APT system.
- A tool axis specification and algorithm have been implemented to provide predictable multi-axis results.
- A feature to allow selective printing of the output data.
- Pattern definition and manipulation capability to facilitate point-to-point programming.
- Capability for punching surfaces and scalar values into cards.
- System macro capability to allow commonly used macros to be defined once and subsequently be available to any input part program.
- Segment Read feature, which allows segments of part programs to be stored on direct access devices and subsequently read in and include in input part programs.
- Implicit subscripting for simplified part coding and improved processor performance.
- Improved Pocketing capability in that the part surface plane may optionally be used as the bottom of the pocket.
- Virtual elimination of arithmetic element loops by addition of code to detect and exit from loop conditions.

Use: The APT processor may be executed in a normal job step environment. The processor is designed to reside on a direct access device in executable form and need only be scheduled as a job operating under OS/360. PCP, MFT, or MVT options may be used to execute APT.

Customer Responsibilities: To achieve usable results and optimum performance, a customer must supply and merge into the APT processor any post processors required by his N/C controller/machine tool combinations ... he must make sure that appropriate training is given to system programmers to permit them to use the Operating System facilities to operate, maintain, and update the APT processor ... he must implement modification and version releases ... he must make sure that proper training is given to the part programmers responsible for developing the input.

Branch Office Responsibilities: The APT processor is generally considered critical to production schedules of manufacturing operations. To best service the user, the APT Development Group utilizes the SECOM network to distribute all program modifications resulting from APAR resolutions. Use SECOM fixes until program modifications are sent by the Program Information Department to registered users. The responsible account representative should contact the customer to determine how SECOM information could best be used to meet his specific requirements.

Programming Systems: The APT processor routines are primarily written in FORTRAN H. The APT input/output routines are written in OS/360 Assembly Language and interface to the BSAM access method. The minimum OS configuration to operate APT includes the OS Assembly Language program, the FORTRAN H compiler, the 44K E-level linkage editor, and the OS utility programs.

APT users must order the S/360 Operating System separately.

System Configuration: Operating System/360 requirements ... Floating Point Arithmetic ... approximately 215K bytes of core storage. Executable load modules require 1.2 million bytes of direct access storage (310 2311 disk tracks). Additional storage is normally required for user-implemented post processor load modules.

Work space for intermediate storage must be available on one or more 2311, 2302, or 2314 disk storage device ... 2301 or 2303 drum storage device ... 2400 tape unit.

The amount of intermediate storage required is a function of the part program executed. Intermediate storage requirements generally vary from a total of .3 million bytes to 2 million bytes.

At installations where APT is a significant application, to meet normal thruput requirements, consider: a model 2050H with Floating Point Arithmetic (#4427) ... one 2400 series tape drive ... four 2311 Disk Drives ... 2540 Card Read Punch ... 1012 Attachment Device (RPO) ... 1012 Tape Punch.

Special Sales Information: The majority of the installed N/C devices operate with a punched tape input mode. The punched tape information is created by the user-supplied post processor in conjunction with APT post processor modules. A requirement for a paper tape punching device, such as the IBM 1012, will normally exist. In addition, the column binary feature may be required for use with customer-written post processor programs.

The processor is distributed on magnetic tape only. Configurations without tape drives may be used to execute the processor if other provisions are made to copy the processor onto a direct access device.

Basic Program Material:

Publications -- Application Directory ... Part Programming Manual (H20-0309) ... Operator's Manual (H20-0331). If only the form numbered manuals are required, order from the IBM Distribution Center, Mechanicsburg -- not from PID.

Machine Readable -- Source programs, executable load modules, overlay structures, and sample part programs are contained on one reel of magnetic tape (2400') in either 9- (800 or 1600 bpi) or 7-track (800 cpi, Data Conversion feature required) mode. The contents of the tape are written in the IEHMOVE unload format.

If track and density requirements are not indicated on the back of the program order card, a 7-track tape (800 bpi) will be forwarded.

Magnetic tapes (2400') may be forwarded or ordered (the order card should accompany the tape order form).

Ordering Procedures: See DP Sales Activity section of the Branch Office Manual.

Additional Program Support Material: Application Description (H20-0181-3) ... System Manual (Y20-0080) ... System Manual Flowchart (Y20-0227).

For further information contact your Regional Manufacturing Marketing Representative.



DOS/360 RELEASE 19 PROVIDES MAJOR NEW FUNCTION

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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
[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.

NOTE: Disregard the reference made to DP Branch Manager Memo B69-19 explaining procedure to use in ordering 1130 RFSP as announced in Programming Letter 69-9. A WT version of this memo will be forthcoming.

Multitasking, CS/30, FORTRAN IV, and a new Sort/Merge are among the outstanding features available with DOS/360 Release 19.

Use this release to upgrade your customer's DOS/360 capability. Order now ... shipments will begin during the week of February 2 ... highlights are below ... details are on the inside pages.

Multitasking -- provides greater utilization of systems resources at the partition level.

CS/30 -- allows 1401/1440/1460 and System/360 programs to run in a single intermixed DOS/360 job stream in a multiprogramming environment.

FORTRAN IV -- offers features beyond DOS/360 Basic FORTRAN IV: Data initialization statements ... COMPLEX and LOGICAL data type ... the logical IF statement. The language is fully compatible with and encompasses USA Standard FORTRAN IV.

Sort/Merge -- provides support for the 2314 Direct Access Storage Facility ... improved multiprogramming support-sort may operate in any or all partitions.

Device Support -- 1259 Model 2, 2495, 2420-7 on Model 50 and 65 and 2780 BSC BTAM.

Coupled with the above new components are new features, normal maintenance for APARs and incremental improvements in:

- System Control and Basic IOCS
Direct Access Method
Consecutive Disk IOCS
Indexed Sequential File Management System
Utilities(Group 2)
Utilities(Group 3)
MPS Utility Macros
Basic Telecommunication Access Method
RPG
OLTEP
Maintenance Extension

All your DOS/360 users should be encouraged to install Release 19 with its greater useability and function.

Handwritten signature of John Fahey, Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Multitasking

Improved multiprogramming support (called multitasking) is offered to provide greater utilization of system resources at the partition level.

Multitasking includes the potential of executing up to 12 programs within the three DOS partitions. Each active partition must have a main program called a main task. The main task can attach up to nine subprograms (called subtasks). Subtasks in each partition can be interrelated or independent programs. Communication between tasks within a partition is supported by means of new macro instructions. Other macros provide a means of protecting main storage (instructions and data) from simultaneous modification or use by more than one task within a partition.

Re-entrant I/O Modules allow the same set of code to be simultaneously executed by two or more tasks. Thus, in a multitasking environment, several tasks may share a single I/O module.

Multiple WAIT capabilities have been added, through a WAITM macro instruction. The multiple WAIT function allows a task to wait for the completion of one of a series of events, rather than for the completion of a single specific event. The multiple WAIT capability facilitates intertask communication within a partition.

Track Hold provides protection of a DASD file that is being shared by more than one task or partition at the same time. The user can read a record from a disk and place a hold on that track to prevent any other task from accessing it. The protection remains in effect until the track is freed by the program issuing the hold. Another task attempting to access a held track will be placed in the wait state until the track is freed and becomes available to it.

Abnormal Termination Exits are now available allowing the user to gain control prior to the removal of his program from the system. In his abnormal termination exit routine, the user may CLOSE critical data sets (such as Indexed Sequential files) and perform other functions necessary to minimize the impact of the abnormal termination of his program.

Relative Addressing is provided for the Direct Access Method. Either a decimal or a hexadecimal relative address can replace the physical address notation for 2311, 2314, and 2321 DASD support. Two advantages of relative addressing are: 1) actual addresses need not be known; only knowledge of the relative position of information within the file is required; 2) the data set may be physically discontinuous, but be treated as one logically continuous area.

Label Processing for Direct Access Method files now includes the processing of user-standard trailer labels.

The 2420 Magnetic Tape Unit Model 7 for the System/360 Models 50 and 65 is supported by DOS/360 beginning with this release.

Minimum System Requirements -- Unchanged.

Publications -- IBM System/360 Disk Operating System, System Generation and Maintenance, C24-5033-6 ...

IBM System/360 Disk Operating System, Supervisor and Input/Output Macros, C24-5037-5 ... IBM System/360 Disk Operating System, Operating Guide, C24-5022-5... IBM System/360 Disk Operating System, Timing Estimates, C24-5032-7 ... IBM System/360 Disk and Tape Operating Systems, Concepts and Facilities, C24-5030-5 ... IBM System/360 Disk Operating System, Data Management Concepts, C24-3427-3, and TNL N24-5377... IBM System/360 Disk Operating System, System Control and System Service Programs, C24-5036-3, and TNLS N24-5378, N24-5369, N24-5355.

CS/30

The 1401/1440/1460 Emulator Program for the System/360 Model 30 (360N-EU-484) allows the user to run 1400-series programs under the Disk Operating Systems in conjunction with the 1401/1440/1460 Basic Compatibility Feature (4456) and the Programmed Mode Switch Feature (5856). The Emulator program simulates the 1400-series I/O instructions with the physical IOCS capabilities of the Disk Operating System. All of the 1400-series CPU instructions are executed by the Basic Compatibility Feature.

The Emulator program is called by DOS Job Control and handles all initialization and loading without the use of a Compatibility Initialization Deck. Initialization and clearing of disk packs is performed by options of the DOS Initialize Disk and Clear Disk utility programs.

1400-series error conditions will normally result in an abnormal end-of-job resulting in job termination. Optionally, 1400-series error conditions may be automatically trapped and the operator informed of their occurrence.

The three levels of support are:

1400 Unit Record - support is provided for 1400-Series card programs and for reading and punching both BCD and binary data.

1400 Tape - support is provided for 1400-series tape operations under the emulator. This support enhances the performance of 1400-series original equipment and requires no reprogramming of 1400-series programs written in accordance with the IBM 1400-series publications.

1400 Disk - support is provided for 1311 Disk Storage Drives and for 1301 and 1405 Disk Storages. Upward compatibility is provided between Model 30 stand alone emulator and the Model 30 Emulator Program under DOS.

Features include:

Increased throughput, since 1400-series I/O is performed in System/360 mode and is overlapped with processing according to the channel configuration of the System/360.

100% stacked-job processing. System/360 and 1400-series programs can be intermixed in the job stream.

1400-series disk need not be on the multiplexer channel and 1400-series tapes need not be on a single selector channel.

Verification of volume serial numbers on disk packs may optionally be performed.

Operator service functions initiated from the console provide a wide variety of capabilities including a 1400 storage dump or display, the ability to change sense-switch assignments, the alteration of 1400-series registers and storage, and automatic end of 1400 processing when an error is detected.

The ability to catalog and Fetch 1400-series programs in the DOS Core Image Library.

Automatic transition to DOS Job Control upon recognition of 1400-series EOJ halts.

Program and data compatibility with the Compatibility Operating System (COS 30).

The DOS/360 1400 Emulator for the S/360 Model 30 (CS/30) does not provide DOS/360 DASD or tape file label creation, verification or protection. If a user's 1400 program does not perform these functions, that program could destroy a 1400 or S/360 tape or DASD file without operator or programmer notification.

DASD file protection can be attained only through 1400 programming. However, if user label checking is not used in the 1400 program, then the following techniques should be used to afford volume protection.

- A. Use the DOS/360 CLEAR DISK UTILITY to format all 1400 files and specify an unexpired date in the DLBL or DLAB statement. This will create a VTOC entry for the file and thus the file will be protected from other S/360 mode programs.
- B. Use the DVOL=YES parameter when assembling the user's emulator, and use the 1400 DVOL control card. By initializing all user DASD volumes with differing and unique volume serial numbers, this DVOL facility will insure that the correct volume is being used.

Minimum System Requirements -- An IBM System/360 Model 30 with a 2030 Processing Unit containing at least 24K bytes of main storage. (The amount of actual storage is variable depending on the features of the Emulator Program and the features of the Disk Operating System that are included.) The minimum Engineering Change Level required is EC126760 ... 1401/1440/1460 Basic Compatibility Feature (4456) ... Programmed Mode Switch Feature (5856) ... Decimal Arithmetic Feature (3237) ... Storage Protection Feature (7520; required for multiprogramming) ... File Scan Feature (4385; supported in Move-mode, but not required) ... I/O Compatibility Features for customer-engineer diagnostics of supported devices (recommended, but not required): Column Binary (1990) ... 1401/1403 (4463) or 1442/1443 (4464) Attachment ... Console Inquiry Station (4465) ... Disk Storage Drives (4466) ... Magnetic Tapes (4467 for multiplexer, and 4468 for selector channels) ... The

standard features and Input/Output devices required for the operation of DOS. Please refer to sales manual page P360M.9 for a listing of these requirements.

Publications -- IBM System/360 Disk Operating System; 1401/1440/1460 Emulator Programs for IBM System/360 Models 30 and 40, C27-6940-1, and TNL N27-1311 ... IBM System/360 Disk and Tape Operating Systems, Concepts and Facilities, C24-5030-5 ... IBM System/360 Disk Operating System; Data Management Concepts, C24-3427-3, and TNL N24-5377 ... IBM System/360 Disk Operating System; System Generation and Maintenance, C24-5033-6 ... IBM System/360 Disk Operating System; Operating Guide, C24-5022-5... IBM System/360 Disk Operating System, Timing Estimates, C24-5032-7 ... IBM System/360 Disk and Tape Operating Systems, Utility Program Specifications, C24-3465-4, and TNLS N28-2328, N28-2347.

FORTRAN IV

A new FORTRAN IV compiler is included in this release FORTRAN IV, 360N-FO-479 ... FORTRAN IV Library Subprograms, 360N-LM-480. Some of the language features that it provides beyond DOS Basic FORTRAN IV are: Data initialization statements ... COMPLEX and LOGICAL data types ... The logical IF statement ... END and ERR parameters to allow testing for end-of-file and error conditions on input ... ASSIGN and assigned GO TO statements ... Labeled COMMON.

DOS FORTRAN IV is fully compatible with and encompasses USA Standard FORTRAN IV. Extensions beyond the USA Standard language level include: Direct access input/output statements for the 2311 and 2314 direct access storage devices ... Seven dimensions for arrays ... An IMPLICIT statement allowing extended implicit classification by the first character of a name ... The NAMELIST statement permitting input/output and conversion without an explicit I/O list and FORMAT statement ... The PAUSE statement option allowing output of messages to the console typewriter ... Generalized subscripts ... Multiple ENTRY points to subprograms ... Non-standard RETURNS from SUBROUTINES.

DOS FORTRAN IV has the ability to: Combine object modules with those produced by Basic FORTRAN IV ... Compile approximately 250 source statements in the minimum 40K bytes of main storage ... Automatically expand to use additional main storage, as available, to compile larger programs ... Produce optional pseudo-assembly listings of compiler output ... Simultaneously use the LINK and DECK options ... Overlay phases at object time ... Accept Explicit BCD or EBCDIC character codes ... Support batched compilation (i.e., the ability to compile multiple programs without reinvoking the compiler).

The DOS FORTRAN IV Compiler is invoked via a // EXEC FFORTRAN control card. A // FTC control card provides for compilation options beyond those offered by the //OPTION card.

A Debug package is available enabling the user to

locate errors in a source program.

Minimum System Requirements -- For compilation a background partition of at least 40K bytes.

Publications: IBM System/360 FORTRAN IV Language, C28-6515-7 ... IBM System/360 Disk Operating System, FORTRAN IV Programmer's Guide, C28-6397 ... IBM System/360 FORTRAN IV Library Subprograms, C28-6596-4 ... IBM System/360 Disk Operating System, System Generation and Maintenance, C24-5033-6 ... IBM System/360 Disk Operating System, Operating Guide, C24-5022-5 ... IBM System/360 Disk Operating System, Timing Estimates, C24-5032-7 ... IBM System/360 Disk and Tape Operating Systems, Concepts and Facilities, C24-5030-5 ... IBM System/360 Disk Operating System, System Control and System Service Programs, C24-5036-3, and TNLS N24-5378, N24-5369, N24-5355.

Sort/Merge

The DOS Tape and Disk Sort/Merge program (360N-SM-483) extends DOS sort/merge capabilities and provides support for the 2314 Direct Access Storage Facility. In addition to the features provided by the other DOS sort/merge programs, this new program provides the following new facilities: The sort user may read, modify, or insert tape/disk records by means of Exit 15, and may write or delete tape/disk records by means of Exit 35 ... A tag sort may be requested for DASD ... Tape and disk control cards are compatible ... The sort may operate in either the background or a batched-job foreground partition ... User exits have additional capability.

This sort/merge program enables the user to sort files of unsequenced records into one sequential file. The control data information can be read from as many as 12 fields in each record. The program assumes that input records for a sort operation are in random sequence. However, if an inherent sequencing exists, the program takes advantage of it.

Records can be sorted or merged into ascending or descending sequence, and an individual sequence can be specified for each control-data field. The output sequence for a merge-only operation must be the same as the input sequence.

Minimum System Requirements -- A 10K partition for 2311 and 2400 sorts, and a 22K partition for 2314 sorts.

Publications: IBM System/360 Disk Operating System, Tape and Disk Sort/Merge Program, C28-6676-1 ... IBM System/360 Disk Operating System, System Generation and Maintenance, C24-5033-6 ... IBM System/360 Disk Operating System, Operating Guide, C24-5022-5 ... IBM System/360 Disk Operating System, Timing Estimates, C24-5032-7 ... IBM System/360 Disk and Tape Operating System, Concepts and Facilities, C24-5030-5 ... DOS/360 Tape and Disk Sort/Merge Timing Estimates, C28-6679.

This sort is designed to be tailored at system generation time to meet the specific requirements of the customer

installation. The following facilities can be included at system generation:

- The entire Sort/Merge Library
- The entire Sort Library
- The entire Merge Library
- A 2400 Sort Library
- A 2311 Sort Library
- A 2314 Sort Library

System Control and Basic IOCS, 360N-CL-453
Direct Access Method IOCS, 360N-IO-454
Consecutive Disk IOCS, 360N-IO-455
Consecutive Tape IOCS, 360N-IO-456
Indexed Sequential File Management System, 360N-IO-457

The System Control and Basic IOCS components have been expanded to support the following new features under the Basic Assembler Language:

- Multiprogramming within a partition (multitasking), with up to 10 programs in a partition or a total of 12 programs in the system.

- A Track Hold function, to DASD files that are shared by more than one task or partition.

- A multiple WAIT feature, which allows a program to wait for the completion of any one of a series of events.

- An abnormal termination supervisor exit, which allows the user to obtain control in his program (prior to the removal of his program from the system) on an abnormal end-of-job.

- Relative addressing and processing of user-standard Trailer labels are now provided for the Direct Access Method IOCS.

- Re-entrant variants of the IOCS modules are provided for CDMOD, DAMOD, ISMOD, MTMOD, PRMOD, SDMOD, and DIMOD. Use of the re-entrant form of these modules enables the concurrent execution of the module by two or more tasks.

Utilities (Group 2), 360N-UT-462
Utilities (Group 3), 360N-UT-463

The Initialize Disk program has been modified to allow its use in conjunction with the 1401/1440/1460 Emulator Program under DOS. When an UPSI card is present for Initialize Disk the following occurs:

- For 2311, the alternate track area is assigned to cylinders 201-202. Cylinder 200 is reserved for the emulator program. At initialization, cylinder 0, tracks 2-9 are used as alternates, but they can only be assigned as alternates at initialization. The VTOC on the 2311 follows the volume labels on cylinder 0, track 0 and extends through track 1.

For 2314, the alternate track are is assigned to cylinders 201-202. Cylinder 200 is reserved for the emulator program. At initialization, cylinder 0, tracks 4-19 are used as alternates at initialization. The VTOC on the 2314 follows the volume labels on cylinder 0, track 0 and extends through tracks 1-3.

For both the 2311 and 2314, the Format 4 Label in the VTOC is updated to show the new status of the pack, and a bit is set to indicate an emulator pack. Both the Copy and Restore programs read the Format 4 label. If the bit indicating an emulator pack is set both programs print out a message and terminate the job.

For the Clear Disk Program, cylinder 200 is formatted in the same manner as the rest of the pack if the UPSI card is present.

Publications: IBM System/360 Disk and Tape Operating Systems, Utility Program Specifications, C24-3465-4, and TNLs N28-2847, N28-2328, N28-2347.

MPS Utility Macros (360N-UT-471)

An additional input macro instruction, INTCR (Input for Tape Cartridge Reader) is now included with the MPS utility macro instructions. The INTCR macro provides the DOS user with a direct and easy means of generating efficient input utility programs for use with the *2495 Tape Cartridge Reader*. The generated utility programs will operate in any partition of DOS. INTCR is designed to operate in a minimum storage partition of 4K bytes, (including buffers and user output routines). The size of buffers, user output routines, and user optional routines may cause additional storage requirements.

Publications: IBM System/360 Disk and Tape Operating Systems, Utility Macros Specifications, C24-5042-3 ... IBM System/360 Disk Operating System, System Generation and Maintenance, C24-5033-6 ... IBM System/360 Disk Operating System, Supervisor and Input/Output Macros, C24-5037-5 ... IBM System/360 Disk Operating System, Operating Guide, C24-5022-5 ... IBM System/360 Disk Operating System, Timing Estimates, C24-5032-7 ... IBM System/360 Disk Operating System, System Control and System Service Programs, C24-5036-3, and TNLs N24-5378, N24-5369, N24-5355 ... IBM System/360 Disk and Tape Operating Systems, Concepts and Facilities, C24-5030-5.

BTAM (360N-CQ-469)

BTAM (360N-CQ-469) has been expanded to include Binary Synchronous Communication support for the System/360* to 2780 Data Transmission Terminals (USASCII). The USASCII 2780 Data Transmission Terminal is supported for the following configurations:

- point-to-point over non-switched lines
- point-to-point over switched (Dial) lines
- multipoint over non-switched lines

* Models 25, 30, 40, 50, 65, 67, (65 mode), and 75

Reference Publications: IBM System/360 Disk Operating System, Basic Telecommunications Access Method, C30-5001-5, and TNL N30-5525.

Report Program Generator, (360N-RG-460)

Multivolume unlabeled tape input is now allowed. An additional entry on the File Description Specification will cause an inquiry message to be printed when the ending tape mark on a tape is read. The operator may then respond to the message to either continue processing with the next tape or go to end-of-job.

Externally conditioned indicators (U1-U8) can be specified to control the execution of the program. These indicators will be set, according to the UPSI bits in the communication region, at the beginning of object program execution. These fields cannot be modified within the program.

The four reserved words, UDATE, UDAY, UMONTH, and UYEAR, may be specified in a program. If specified, they are filled from the user date in the communication region at the beginning of object program execution. These fields cannot be modified within the program.

The number of Matching Fields has been increased from three to nine. These are specified as M1-M9 and the same rules and functions that applied to M1-M3 also apply to M4-M9.

Main storage requirements for compilation remain at 16K bytes (a 10K background partition). Storage requirements for recompiled object decks are increased:

All programs require an additional 60 bytes. Programs that use the externally conditioned indicators (U1-U8) will require an additional 64 bytes.

Programs that use the user-date feature will require an additional 60 bytes.

Publications: IBM System/360 Disk and Tape Operating Systems, Report Program Generator Specifications, C26-3570-4, and TNLs N21-5095, N21-5055, N21-5077, N21-5086, N21-5090 or C26-3570-5, and TNLs N21-5096, N21-5095.

PL/I (360N-PL-464)

PL/I Improvements added are:

If the Option LISTX is set and UPSI bit 4 (the fifth bit) is on, a table containing the source statement numbers and corresponding offsets is provided instead of the object code listing.

The module, IJKVCEM, has been altered to provide rounding for conversions of packed decimal intermediate data to the E or F format if the number of digits to be put out is less than the

number of source digits. The round E-F feature performs like the ROUND built-in function.

1259 Magnetic Character Reader

DOS/360 MICR IOCS, 360N-IO-477, now supports the IBM 1259 Magnetic Character Reader, Model 2 attached to an IBM System/360 Model 30 or 40. Please refer to sales manual page P 360N.3 for more information.

OLTEP (360N-DN-481)

The On-Line Text Executive Program is modified to support unit tests for the 2495 Tape Cartridge Reader.

Program Maintenance

The 30 calendar-day period during which a Release is considered current, following the availability of the next release, has been extended to 90 calendar days for DOS/360. This change will take effect immediately. Specifically, Release 18 will be considered current (and therefore APARs will be accepted) for 90 calendar days following the availability of Release 19.

Note on Storage

Specific primary and secondary storage requirements are included in appendix G of the System Reference Manual, IBM System/360 Disk Operating System, System Generation and Maintenance, C24-5033-6.

PTF Distribution

PTF's will be distributed with this release of DOS/360. Complete information on PTF distribution format and applicability is available to IBM field personnel via RETAIN.

PTF's represent changes which have not yet been integrated into the system, and whose testing has been limited. No PTF should be applied until an applicable programming problem has been encountered. It is the responsibility of Field Engineering personnel to control selection and application of PTF's to customer systems.

The distribution of PTF's with this release does not imply that IBM will adopt a policy or practice of PTF distribution with future releases of DOS/360 or with any other Type I programming support.

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 PTF's. Engineering change level prerequisites must be installed. Applicable PTF's should be installed before attempting customer operations. The review should consider all available published information plus information carried in RETAIN or SECOM.

Distribution Format for DOS/360

Because of the added function in this release, and in order to facilitate system generation, DOS has been reformatted with this System Release.

The 2311 resident Disk Operating System is now supplied to the user on two volumes. The (2400' tape reels for tape users and 1316 disk packs for non-tape users) can be identified as a relocatable volume and a source statement volume. The relocatable volume consists of a core image library (containing a 6K supervisor, the system service programs, and all system transients) and a complete system relocatable Library. The source statement volume consists of a core image library (identical to the core image library on the relocatable volume but also containing an assembler) and a complete system source statement library.

The 2314 resident system is supplied on two tape reels. The two tapes restored to a single 2316 disk pack to create a system consisting of a core image library with an 8K supervisor, a relocatable library, and a source statement library. The format of the 2314 resident system is unchanged from previous releases, with the exception that only an 8K supervisor is available.

Note to Current Users

Current Users will receive a Prepunched Program Order Card and a letter announcing the availability of DOS/360 Release 19. The letter instructs them to order the new Release through the branch office. They should use the Prepunched Order Card.

Basic Program Material Ordering Instructions

See sales manual text on pages 7 and 8.

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	C24-5022-5
Concepts and Facilities	C24-5030-5
Timing Estimates	C24-5032-7
Systems Generation and Maintenance	C24-5033-6
Data Management Concepts <u>TNL N24-5377</u>	C24-3427-3
System Control and System Service Programs <u>TNLs N24-5355, N24-5369, N24-5378</u>	C24-5036-3
Supervisor and Input/Output Macros	C24-5037-5
Basic Telecommunications Access Method <u>TNLs N30-5509, N30-5515, N30-5520,</u> <u>N30-5525</u>	C30-5001-5
Utility Macros Specifications	C24-5042-3
Vocabulary File Program for the 7772 Audio Response Unit	C27-6924-2
Utility Programs Specifications <u>TNLs N28-2328, N28-2347</u>	C24-3465-4
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 <u>TNL N28-2370</u> (Note - SRL C24-3444-1 plus TNLs N21-5035, N21- 5049, N28-2257 and N28-2370 may be used in lieu of the SRL C24-3444-2 plus TNL N28-2257, N28-2370)	C24-3444-3
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 <u>TNLs N26-0582, N26-0587, N26-0589</u>	C24-3414-5
COBOL Programmers Guide	C24-5025-5
COBOL Language Specifications	C24-3433-5
FORTRAN IV Programmers Guide	C24-5038-2
FORTRAN IV Language	C28-6629-1
Report Program Generator <u>TNLs N21-5095, N21-5096</u> (Note - SRL C26-3570-4 plus TNLs N21-5095, N21- 5055, N21-5077, N21-5086, N21-5090, N21-5096 and N24-5195 may be used in lieu of the SRL C26-3570-5 plus TNL N21-5095, N21-5096)	C26-3570-5
Autotest Specifications N33-8589	C24-5062
QTAM Message Control Program <u>TNL N30-5522</u>	C30-5004-2
QTAM Processing Program Services <u>TNL N30-5523</u>	C30-5003-3
Basic PL/I Reference Manual <u>TNLs N33-9015, N33-9031, N33-9040</u>	C28-8202
PL/I Programmers Guide	C24-9005-3
PL/I DASD Macros <u>TNL N24-5301</u>	C24-5059
On-Line Test Executive Program Specs and Operating Guide	C24-5066-2
S/360 Disk Operating System - FORTRAN IV Programmer's Guide	C28-6397-0
S/360 FORTRAN IV Language	C28-6515-7
S/360 FORTRAN IV Library Sub-programs	C28-6596-4
S/360 Disk Operating System - Tape and Disk Sort/Merge Program	C28-6676-1
S/360 Disk Operating System - 1401/1440/1460 Emulator Programs for System/360 Models 30 and 40 <u>TNL N27-1311</u>	C27-6940-1

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 ... Attachment I - to the Basic Program Material List ... Attachment II - Special Instructions ... Attachment III - PTF Information.

Machine Readable

For 2311 Residence -- DOS/360 is distributed on two (2400') 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.

The reels of magnetic tape are in 1316 Disk Pack restore form.

The DOS/360 data is preceded by an initialize 2311 Utility Program and a Restore Tape-to-Disk program.

For 2314 Residence -- DOS/360 (except Autotest) is distributed on two (2400') reels of magnetic tape, either 9-track (800 or 1600 bpi) or 7-track (800 cpi Data Conversion feature required). The 2314 Residence is not available on disk.

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 (1316 only) 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 - 2311 (6K)	360N-SV-474
2314 (8K)	360N-SV-486
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 IOCS	360N-IO-478 *
Autotest	360N-PT-459
Assembler	360N-AS-465 *
Assembler F	360N-AS-466 *
COBOL	360N-CB-452 *
COBOL DASD Macros	360N-CB-468
FORTRAN IV	360N-FG-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 *
Basic PL/I	360N-PL-464 *
OLTEP	360N-DN-481 *
FORTRAN IV	360N-FO-479**
FORTRAN IV Library Sub-program	360N-LM-480**
Tape/Disk Sort/Merge	360N-SM-483**
Model 30 Emulator	360N-EU-484**

*Changed with Release 19

**New with Release 19

DOS/360 is distributed on one of two formats: 2311-Resident system with a 6K Supervisor, or 2314-Resident systems with a 6K Supervisor. Users should indicate on the back of the program order card the Resident System required. If the Resident Supervisor is not indicated, PID will supply a 6K Supervisor (360N-SV-474) for 2311.

The System Control and Basic IOCS components and one of the two Supervisor components are required. To order these components, specify on the IBM Program Order for System/360 Operating System (120-1411) -- System Control and Basic IOCS, 360N-CL-453, and one of the following supervisors:

Supervisor - 2311 (6K)	360N-SV-474
2314 (8K)	360N-SV-486

Additional Program Support Material:Program Logic ManualsDOS/360

System Control Introduction	Y24-5017-4
Librarian Maintenance and Service	Y24-5079, TNL Y24-5092
Linkage Editor	Y24-5080, TNL Y24-5113
Supervisor and Transients	Y24-5084-1
IPL and Job Control	Y24-5086, TNL Y24-5109
Logical IOCS Introduction	Y24-5020-4
Unit Record, Mag. Tape, and Compiler Files	Y24-5087-1
Sequential and Direct Access Files	Y24-5088-1
ISFMS	Y24-5089-1
BTAM	Y30-5001-2, TNLS Y30-5516, Y30-5521, Y30-5506, Y30-5004

QTAM

Utilities	Y30-5002-3
Disk Sort/Merge	Y24-5023, TNL Y21-0002
Autotest	Y24-5021, TNL Y28-2291
Tape/Disk Sort/Merge	Y24-5027
FORTRAN IV	Y28-6645 Y28-6394

DOS/360 and TOS/360

OLTEP	Y24-5056-1, TNLS Y24-5090 Y24-5106
MPS Utilities	Y24-5045-2
Tape/Disk Sort/Merge	Y28-6645
FORTRAN IV	Y28-6394
Assembler	Y26-3642-1, TNLS Y26-8006, Y26-8007, Y26-8015
Assembler F	Y26-3716
RPG	Y26-3701-1, TNL Y21-0009,
COBOL	Y24-5025-2, TNLS Y28-6390, Y28-6389
FORTRAN IV	Y24-5032
Subroutine Library	Y33-9013, TNLS Y33-9027, Y33-9018, Y33-9032
PL/I Volume 1	Y33-9010-1
PL/I Volume 2	Y33-9011, TNLS Y33-9028, Y33-9019, Y33-9034
PL/I Volume 3	Y33-9012, TNLS Y33-9029, Y33-9024

Program Listings: The DOS/360 assembly listings and/or Macro (Source Statement Library) SSERV listings are available on Microfiche. Specify Group Code 2030 for the assembly listings or Group Code 2032 for the Macro SSERV listings. The assembly listings are equivalent to the output listings produced by assembling the symbolic modules as required for each of the DOS/360 Components listed below. The Macro SSERV listings are equivalent to a SSERV display on a printer of the Macros of the Components where applicable.

Optional Program Material (Symbolic Modules): Use the IBM Program Order for IBM System/360 Operating Systems, 120-1411.

The optional program components are available on twelve distribution volumes, each identified for PID ordering purposes by a Distribution Volume Number. Distribution may be requested on IBM 1316 Disk Packs, 9-track magnetic tape (800 bpi or 1600 bpi), or 7-track magnetic tape (800 cpi) with the Data Conversion feature.

Each tape may also be restored to a 2316 Disk Pack on a 2314 Disk Drive. When using a 2316 Disk Pack, the user should designate the device as a 2311 for all operations involving the restoring and using of the Disk Pack. However, it should be initialized as a 2316.

Magnetic tapes may be ordered or forwarded, or disk packs may be forwarded in accordance with current procedures described in the DP Sales Activity section of the Branch Office Manual. A separate magnetic tape or disk pack is required for each distribution volume. The external tape or disk pack label must show the distribution volume number indicated below, as well as the information required under current procedures.

If either 9- or 7-track magnetic tape is not specified, 9-track (800 bpi) will be forwarded.

<u>Distribution Volume Number</u>	<u>Program Component Name</u>	<u>Program Number</u>
1	System Control	360N-CL-453
2	Assembler	360N-AS-465
	Assembler F	360N-AS-466
3	Group 1 Utilities (Unit Record and Disk)	360N-UT-461
	Group 2 Utilities (Magnetic Tape)	360N-UT-462
	Group 3 Utilities (Data Cell)	360N-UT-463
	MPS Utilities	360N-UT-471
4	COBOL	360N-CB-452
5	Disk Sort/Merge	360N-SM-450
	Tape Sort/Merge	360N-SM-400
	Tape and Disk Sort/Merge	360N-SM-483
6	Report Program Generator (RPQ)	360N-RG-460
	Autotest	360N-PT-459

7	BTAM	360N-CQ-469
	QTAM	360N-CQ-470
	Vocabulary Utility File	360N-UT-472
8 & 9	Basic PL/I	360N-PL-464
10	1285 Optical Character Reader	360N-IO-478
	Magnetic Ink Character Reader IOCS	360N-IO-477
	Basic IOCS	360N-CL-453
11	On-Line Test Executive Program	360N-DN-481
	1401/1440/1460 Emulator Program	
	System/360 Model 30	360N-EU-484
12	Basic FORTRAN IV	360N-FO-451
	FORTRAN IV	360N-FO-479
	FORTRAN IV Subroutines	360N-LM-480

The above distribution volumes do not contain source statements which are available in source format with the basic machine readable material for DOS/360. Therefore, there is no optional program material for the following DOS/360 components: Consecutive Disk IOCS, 360N-10-455; Consecutive Tape IOCS, 360N-10-456; Direct Access Method, 360N-10-454; ISFMS, 360N-10-457; Consecutive Paper Tape IOCS, 360N-10-458; COBOL DASD Macros, 360N-CB-468.

Source statements for the Supervisor - 2311 (6K), 360N-SV-474, 2314 (8K) 360N-SV-486, and the Compiler Input/Output Macros 360N-IO-476, are not provided. See System/360 Disk Operating System, System Generation and Maintenance, C24-5033-6, for information on these modules.

See GI Page 14.2 for complete information before ordering additional program support material.

IBM**IBM World Trade Data Processing****PROGRAM ANNOUNCEMENT****VERSION 4 OF 7074 EMULATOR PROGRAM
FOR MODELS 50 AND 65 AVAILABLE****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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

Version 4 of the 7074 Emulator Program for the System/360 Models 50 and 65 (360C-EU-725) is now available.

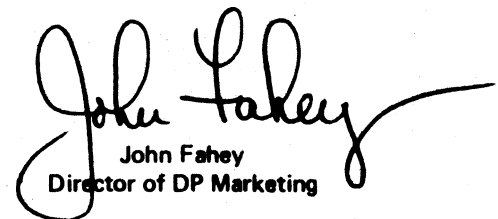
In addition to all the features of Version 3, it includes support for 2420 Magnetic Tape Unit Model 5 on the Models 50 and 65, 2420 Models 5 and 7 and 2803 Tape Control Unit Model 2 on the Model 65. It should be noted that data transfer operations are restricted to the simultaneous operation of 2420-7s on two channels.

The 7074 Emulator Program is a stand-alone program that executes 7074 programs and 7070 programs that are 7074-compatible, when used on System/360 Models 50 and 65 equipped with the 7074 Compatibility Feature (7117). The Emulator Program and the Compatibility Feature together constitute the Emulator. Currently operating 7074 programs can be executed without modification, although certain special and custom features are not emulated.

By eliminating the requirement to convert all 7074 programs before installing System/360, the Emulator allows the user to apply most of his programming resources toward developing new applications and re-designing existing applications to take full advantage of System/360 facilities. Use of the Emulator also eases the pressure of program testing.

Internal performance of the emulator with respect to the 7074 ranges from .5 times 7074 CPU speed (System/360 Model 50) to 1.8 times 7074 CPU speed (System/360 Model 65). Internal performance with respect to the 7070 ranges from 2.4 times CPU speed (System/360 Model 50) to 8.4 times 7070 CPU speed (System/360 Model 65). [Timing information which may be used to estimate throughput is presented in the SRL publication IBM System/360 Conversion Aids: The 7074 Emulator Program for IBM System/360 Models 50 and 65, C27-6908.]

See the reverse side for more information.



John Fahey
Director of DP Marketing

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Distribution: All Areas

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The basic 7074 configuration being emulated can include 10 tape units on each of four channels on System/360 Model 65 or three channels on System/360 Model 50, unit record equipment, and the 7150 Console typewriter.

In addition to the 7074 Compatibility Feature, System/360 requirements are: 262,144 bytes of main storage (Model H) ... One 1052 Printer-Keyboard ... One selector channel for each tape channel of the system being emulated ... One 2401 or 2402 Magnetic Tape Unit, Models 1-6; 2403 or 2415 Magnetic Tape Unit and Control, Models 1-6; or one 2404 Magnetic Tape Unit and Control, Models 1-3; or one 2420-7 (Model 65 only) and control for each 729 Tape Unit to be emulated; or one 2420-5 and control for each 729 Tape Unit to be emulated. The 2415 Magnetic Tape Unit and Control is not supported with System/360 Model 65.

If the Emulator Program is to be loaded from a magnetic tape unit equipped with the Seven-Track Read Write Head (9557) and the Seven-Track Compatibility Feature (7125, 7127), the Data Conversion feature (3228 or 3236) must be installed on the associated tape control unit. After the Emulator Program has been loaded, the load device is available as a 7074 corresponding device. (See table.)

Input/Output device correspondence is as follows:

I/O Device Correspondence Table for 7074 Emulator

<u>7074 Device</u>	<u>System/360 Device</u>
7500 Card Reader	1442 Card Read Punch or
7501 Console Card Reader	2501 Card Reader or 2520 Card Read Punch or 2540 Card Read Punch
7550 Card Punch	1442 Card Read Punch or 2520 Card Read Punch or 2540 Card Read Punch
7400 Printer	1443 Printer or 1403 Printer
7150 Console Typewriter	1052 Printer-Keyboard
729 Series Magnetic Tape Units	2401 or 2402 Magnetic Tape Units, Models 1-6, 2403 or 2415* Magnetic Tape Unit and Control, Models 1-6 or 2402 Magnetic Tape Unit and Control Models 1-3 or 2420-5 and 7 Magnetic Tape Unit ** or 2420-5 Magnetic Tape Unit ***

Reference Material -- System/360 System Summary, A22-6810 ... System/360 Principles of Operation, A22-6821 ... 7070-7074 Principles of Operation, A22-7003 ... 7070/7074 Compatibility Feature, A27-2717 ... System/360 Conversion Aids: The 7074 Emulator Program for System/360 Models 50 and 65, Program Logic Manual, Y27-7111.

Basic Program Material

Documentation - Program Material List

SRL Publications - System/360 Conversion Aids: The IBM 7074 Emulator Program for IBM System/360 Models 50 and 65, C27-6908-3.

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

Machine Readable - The 7074 Emulator Object Program is available on one 9-track (800 or 1600 bpi) DTR, or one 7-track (800 cpi) DTR (Data Conversion feature required).

Current Users will not receive the new version automatically. Instead, they will receive a pre-punched program order card and a letter announcing the new version and instructing them to order it through the branch office.

DTR's are supplied by PID; no tape submittal is required.

Optional Program Material

Documentation - Program Material List

Machine Readable - The 7074 Emulator Source Program is available on one 2400' magnetic tape (800 or 1600 bpi) or one 2400' magnetic tape (800 cpi Data Conversion feature required).

Ordering Procedures

See the DP Sales Activity section of the Branch Office Manual.

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

Magnetic tapes (2400') may be forwarded or ordered. The Program Order Card should accompany the Tape Order form.

* 2415 on Model 50 only
 ** 2420-7 on Model 65 only
 ***2420-5 on Model 50



IBM World Trade Data Processing

P69-21

PROGRAM ANNOUNCEMENT

**VERSION 1 OF ALIS (TYPE II)
IS AVAILABLE**

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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

Version 1 of the System/360 Advanced Life Information System (360A-1L-09X) is now available. It was scheduled to be available March 31, 1969 (see P68-81).

It includes two features that were scheduled for Version 2. The features are:

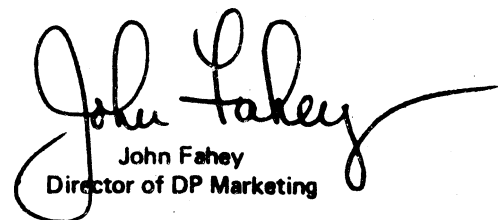
- Home Office Inquiry consisting of one partial image display, three name and address displays, and seven quotation transactions.
- EI/RPU conversions consisting of four transactions for conversion to extended term and reduced paid-up insurance.

New publications and TNLs supporting this release are: ALIS Program Description Manual (H20-0518), ALIS Home Office Inquiry Program Terminal Operations Manual (H20-0588), ALIS Home Office Inquiry Program System Manual (Y20-0321), and ALIS EI/RPU TNLs (Y20-0307, Y20-0308, Y20-0309, Y20-0310, Y20-0311).

Maintenance TNLs reflecting changes to the existing program documentation will be available February 28, 1969.

A new sales manual write-up is on the reverse side.

Note: Version 2, as announced in P68-81, will be available July 31, 1969. It will supersede Version 1.



John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

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Distribution: All Areas

P69-21

Advanced Life Information System (ALIS): ALIS represents an insurance information system's approach to the maintenance, processing, and servicing of individual life insurance contracts. (360A-IL-09X)

Description: The system uses modular programming techniques to perform automatic processing of scheduled (internal) and nonscheduled (external) transactions ... and updating of policies with cash values, reserves, dividends, and other forms of participation, and renewable term premium rates just before the anniversary.

Most modules which perform these insurance logic functions are programmed in COBOL. This simplifies program maintenance and modifications. Executive routines link the insurance logic modules with the IBM Disk Operating System for System/360. These routines are modular and written in assembler language. This separation of processing and control functions provides the widest possible range of system configuration approaches to solve individual customer requirements.

Features: The system is designed in a modular concept to facilitate use and modification ... insurance logic modules are designed to work in a disk operating system's environment ... the mass direct access storage capacity of the IBM 2321 Data Cell Drive is used to house the policy master file ... insurance logic is designed to provide maximum flexibility for companies of all sizes to effectively utilize its features ... the system provides a base for Teleprocessing communications network ... the system supports one 1050 terminal and one 2260 terminal.

Customer Responsibilities: A thorough knowledge and understanding of the system before implementation ... design conversion procedures to generate policy master records in a form acceptable to the system ... generate dividend, renewable term premiums, cash value, net premiums, benefit and terminal reserve rate tables ... develop adequate procedures and programs to generate policy master records for all new business, exchange, conversion, and re-instatement contracts ... write programs to print premium notices and other forms of notification except where notification by automatic status is adequate ... prepare Commission statements and Agents Accounting from system generated output.

Use: ALIS represents a new information system's approach to the maintenance, processing, and servicing of life insurance contracts.

ALIS is an extremely comprehensive system, but it still must be modified or "tailored" to conform to the unique business practices of each user. Therefore, the first step in using ALIS is the determination of these modifications. The next step is to implement these modifications and to generate a policy master record file containing all of the information required by ALIS. The policy master record file and unscheduled transactions are then input and processed by the ALIS programs - scheduled transactions require no external input other than the information contained on the policy master record. Output from this processing is then analyzed by an output analysis program and routed to various programs for final printing. Intermediate files are also produced for use by the policy exhibit and valuation programs.

The Home Office Inquiry feature of ALIS may be used as soon as a policy master record file has been generated. This feature provides the facility to display on the 2260 or 1050 a partial image of the policy master record (plan, face value, mode premium, issue, paid-to and billed-to dates, etc.); the name and address of the insured, payer and other; and the results of the following quotation transactions: cash surrender, conversion to nonforfeiture option, withdrawn par values on deposit, withdrawn paid-up additions, maximum loan, loan payoff, and mode premium.

Programming Systems: ALIS operates under DOS/360 and uses the System Control and Basic IOCS, Consecutive Tape IOCS, Direct Access Method, Indexed Sequential File Management System, Group I, II, and III Utilities, Disk/Tape Sort/Merge or Tape Sort/Merge, Assembler language, COBOL, Compiler Input/Output Modules, and BTAM (Basic Telecommunications Access Method). Users must become familiar with these components of the Disk Operating System.

Minimum System Requirements: Daily Cycle and Valuation Programs - System/360 Model F30 with at least 56K bytes available for program, data, and access method storage and the decimal arithmetic, storage protection, interval timer, selector channel, and 1051 attachment features ... a 1051 Control Unit Model N1 with CPU attachment, systems console attachment, first punch, first reader, and first printer attachments controlling one 1052 Printer-KeyBoard Model 8 ... 2841 Storage Control with 2321 attachment feature ... a 2321 Data Cell Drive Model 1 and a 2311 Disk Storage Drive Model 1 ... four 2401 Magnetic Tape Units Model 1 ... 2803 Tape Control Unit Model 1 ... 2821 Control Unit with a 1403 Printer Model 2 and one 2540 Card Read Punch Model 1.

Alternate input/output units supported by DOS/360 may be substituted to satisfy individual company requirements. Consideration must be given to volumes of input and output in light of required throughput speeds ... off-line system availability ... sorting capability in this or another system ... requirements of programming systems for other user applications.

Home Office Inquiry - System/360 Model F30 with 44K bytes available for program, data, and access method storage. In addition to the features required for the daily cycle and valuation programs, home office inquiry requires a 2848 Display Control Model 2 with display adapter, line addressing, non-destructive cursor, and non-destructive cursor adapter controlling a 2260 Display Station Model 2 ... 2701 Data Adapter Unit Model 1 with Line Adapter (#4636) and Terminal Adapter (#4645) ... a 1051 Control Unit Model 1 with line adapter, first printer attachment, and keyboard request features ... a 1052 Printer-KeyBoard Model 1.

Basic Program Material:

Publications -- Application Directory ... Program Description Manual (H20-0518) ... Operations Manual (H20-0517) ... Home Office Inquiry Program Terminal Operations Manual (H20-0588). If only the form numbered manuals are required, order from Mechanicsburg -- not from PID.

Machine Readable - The source programs and source tape ALIS maintenance program (STAMP) are available on two 2400' 9-track (800 or 1600 bpi) magnetic tape reels.

Magnetic Tapes (2400') may be forwarded or ordered (the program order card should accompany the tape order form).

If the density requirements are not indicated on the back of the program order card, 800 bpi will be forwarded.

Ordering Procedures: See Branch Office Manual, DP Sales Activity Section.

Additional Program Support Material: Application Description Manual (H20-0126) ... Policy Master Record Code Book (H20-0483) ... Utility Program Description Manual (H20-0519) ... Batch Edit System Manual (Y20-0177) ... Input Edit System Manual (Y20-0178) ... Frequently Used Record Formats System Manual (Y20-0179) ... Miscellaneous Volume System Manual (Y20-0180) ... File Maintenance Run Executive System Manual (Y20-0181) ... Data Cell Reorganization Program, Policy Master Record Merge Program, Data Cell Reconstruction Program, and Data Cell Restore Program System Manual (Y20-0182) ... File Maintenance Include (R) Routines (Narratives) System Manual (Y20-0183) ... File Maintenance Include (R) Routines (Flowcharts) System Manual (Y20-0184) ... File Maintenance Call (S) Routines (Narratives) System Manual (Y20-0185) ... File Maintenance Call (S) Routines (Flowcharts) System Manual (Y20-0186) ... File Maintenance Issues, Additions, Complex Changes, and Terminations Transactions System Manual (Y20-0187) ... File Maintenance Simple Changes Transactions System Manual (Y20-0188) ... File Maintenance 36XX Financial Transactions - Payments System Manual (Y20-0189) ... File Maintenance Financial Transactions - Accounting Entries System Manual (Y20-0190) ... File Maintenance Status Transactions - Process and Quote Terminations System Manual (Y20-0191) ... File Maintenance Status Transactions - Process and Quote Miscellaneous, Loan Values, and Participation Values System Manual (Y20-0192) ... File Maintenance Billing Transactions System Manual (Y20-0193) ... File Maintenance Premium Due, Overdue, and Anniversary Processing Transactions System Manual (Y20-0194) ... File Maintenance Rate File Extract and Anniversary Extract Update Transactions System Manual (Y20-0195) ... File Maintenance Contractual Change and Notifications System Manual (Y20-0196) ... Output Analysis System Manual (Y20-0197) ... Transaction Register System Manual (Y20-0198) ... Status Print System Manual (Y20-0199) ... Policy Accounting Journal System Manual (Y20-0200) ... Accounting Control System Manual (Y20-0201) ... Error Register System Manual (Y20-0202) ... Rate File System Manual (Y20-0203) ... Home Office Inquiry Program System Manual (Y20-0321).

Reference Material: Promotional Brochure (520-1205).

For additional information contact your Insurance Marketing Representative.

IBM**IBM World Trade Data Processing****PROGRAM ANNOUNCEMENT****1130 PROBLEM LANGUAGE ANALYZER
(PLAN) IS AVAILABLE (TYPE II)****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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

The Problem Language ANalyzer (PLAN) (1130-CX-25X) is available to users of 1130 Disk Monitor.

PLAN is a submonitor and application development system that is especially valuable for use with applications that are highly variable in nature and for problem solving and design.

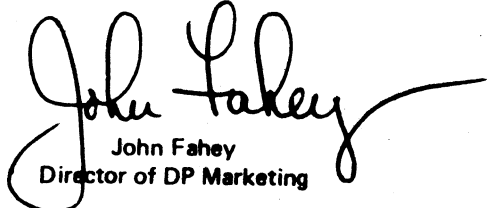
PLAN is a prerequisite program for a number of Type II programs (see P68-49, P68-125, and P68-157).

The Systems Manual Flowcharts (Y20-0344) and listings (Y20-0349) are now available from Mechanicsburg. Preliminary copies of the Systems Manual Flowchart Narratives will be available February 26, 1969 from Manufacturing Industry Development, DPD HQ (to be available from Mechanicsburg March 31, 1969; form number will be announced in a PRL).

To assist those who will use PLAN, a User's Introduction Manual is being prepared that will be intermediate in detail between the Application Description and Program Description Manuals. Preliminary copies will be available May 1, 1969, from Manufacturing Industry Development, DPD HQ (to be available from Mechanicsburg June 15, 1969; form number will be announced in a PRL).

The Application Description Manual (H20-0490) has been completely revised. Existing copies should be replaced.

For additional information see the reverse side.


John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: January 31, 1969
Distribution: All Areas

P69-22

Problem Language Analyzer (PLAN): PLAN (1130-CX-25X) is a submonitor and application development support system especially designed to support problem solving and other highly variable applications.

Description: PLAN furnishes five closely related program sets that are mutually dependent. These provide the basic PLAN functions: the submonitor ... the PLAN input language interpreter ... the PLAN input language definer ... the PLAN subroutine package for FORTRAN application programmers ... the Diagnostic Supervisor.

Because PLAN is designed to support highly variable applications, it offers a new type of modularity. Program linkage definition and intermediate DASD specifications are deferred until execution time when they can be varied by input data. As a result, much program recoding and reorganization can be avoided.

In further support of this idea, input languages used for application control under PLAN are also defined at the statement level. Both new statement definitions and new program modules can be added to a PLAN application without forcing changes in existing programs and statement definitions.

Features: Free form input ... four levels of input statement hierarchy ... user controlled error recovery and diagnostic features ... powerful input data options, such as default value, override, algebraic and logical expressions for data values, automatic mode conversion and scaling ... dynamic program loading ... extensive subroutine support for FORTRAN application programmers.

Use: The problem solver (application user) communicates with PLAN through PLAN statements designed by the customer to suit his needs. Each PLAN statement contains a maximum of 450 characters; terminated by a semicolon. A new statement may immediately follow the semicolon. Each statement usually contains both a command and data. Processing a PLAN statement causes execution of one or more program modules, using accumulated data and the partial results available at that time.

Programmers communicate with the PLAN system to obtain program linkage, error handling, data management and utility functions by entering PLAN subroutines through CALL linkages (normally from FORTRAN).

Customer Responsibilities:

Program Requirements -- Functional program modules must be written for new applications, following FORTRAN conventions. These modules are named and stored in the Operating System or Monitor Program Library.

Certain FORTRAN operations may terminate the execution of PLAN. In general, these are the functions that return control to the monitor. Substitute functions are provided for these under PLAN and should be used.

For each PLAN application, the customer must also design and define the input language that he wants to use.

Staffing -- Capable personnel are necessary for good results. Creating a PLAN application involves three groups of people. They are (a) users who are to be served by the application (b) programmers who implement functional logic modules and (c) system designers who actually design the application input language in detail and specify the data and program modules to be used for each kind of input statement.

Education -- Initial education for system designers and key programmers can be accomplished in a 4-day workshop school. No more than a few hours of PLAN training will be needed for those who are simply using a PLAN based application. Customers should expect to prepare simplified users' manuals for application users. Their direct use of PLAN program documents is not intended.

Evaluation -- PLAN is designed to support change. An important factor in the long term success of PLAN applications is user feedback to and continued attention and documentation maintenance from the application designer.

Special Sales Information: Because PLAN is designed to have new functions added as independent modules and because many application programs (both IBM and customer) will be operating under PLAN, the PLAN program must not be altered in any way. This will not limit the customer's ability to provide special capability and functions as he needs them because such capability can be modularly added. If the customer proposes to change the PLAN code, the systems engineer should contact Manufacturing Industry Development, DPD HQ in White Plains.

Programming Systems: PLAN runs under 1130 Disk Monitor System Version 2 (1130-05-005). It is programmed in the 1130 Assembly language and 1130 FORTRAN language.

Minimum Systems Configuration: 1131 Central Processing Unit Model 2B with one card reader and punch unit from the set supported by the 1130 Disk Monitor.

Larger 1131 models, alternate card input/output devices and printers supported by the 1130 Disk Monitor are also supported by PLAN.

Basic Program Material:

Publications -- Application Directory ... Program Description Manual (H20-0594) ... Operations Manual (H20-0595). If only the form numbered manuals are required, order from Mechanicsburg -- not from PID.

Machine Readable -- Object decks and sample problem decks are available on a 2315 Disk Cartridge (supplied by user).

Optional Program Material:

Machine Readable -- Source decks are available on one 9-track (2400) 800 or 1600 bpi magnetic tape. Decks and source listings are generated by a self-loading BPS program contained on the tape, using a System/360 Model 2030D or larger with at least one 2400 series tape drive.

*Magnetic Tapes (2400) may be forwarded or ordered (the program order card should accompany the tape order form). 2315 Disk Cartridges must be forwarded to PID with the program order card.

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.

Ordering Procedures: See Branch Office Manual, DP Sales Activity section.

Additional Program Support Material: Application Description (H20-0490) ... Systems Manual -- Volume 1, Narratives (to be available from Mechanicsburg March 31, 1969), Volume 2, Flowcharts (Y20-0344), Volume 3, Listings (Y20-0349) ... User's Introduction Manual (to be available from Mechanicsburg June 15, 1969).

For further information contact your Regional Manufacturing Industry Marketing Representative.



**OS/360 BTAM EXTENSION INCLUDES
2741 COMMUNICATION TERMINAL**

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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

**BPS/360 SUPPORT FOR 2420 MODEL 7
AVAILABLE IN CURRENT PROGRAMS**

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: February 3, 1969
Distribution: All Areas
Attachment: P9035

The Basic Telecommunication Access Method (BTAM) under OS/360 is being expanded to support the 2741 Communication Terminal. The 2741 is primarily a conversational terminal which provides remote access to a System/360 over point-to-point switched or non-switched communication lines.

This extension will be available October 31, 1969.

BTAM support now provides conversational communication between the computer and terminal at the Read/Write level. Communication is initiated by the terminal operator whose keyboard is always unlocked except when responses are being printed.

The conversation consists of alternating input data from the terminal with responses from the computer until the terminal operator chooses to end the communication. The terminal operator terminates the conversation by either switching the terminal mode switch to Local mode or by turning off the terminal power.

The Interrupt and Autocall special feature are supported on an optional basis. The Autocall feature is required if a switched network is used. The Interrupt feature (not available on a 2701) is required if the Attention key is to be used to interrupt data transmission from the computer.


Publications -- A Planning Guide, Planning for OS BTAM 2741 Support (C30-2009), is available. The OS/360 Basic Telecommunication Access Method manual (C30-2004) will be updated to include this programming support at time of delivery, and the planning guide will be withdrawn.

Minimum System Configuration -- No change to current requirements.

Support for the 2420 Magnetic Tape Unit, Model 7 is included in the following BPS/360 programs:

Sort/Merge	360P-SM-044	Version 3	Modification 8
Card to Tape	UT-051	3	4
Tape to Printer	UT-052	3	3
Tape to Card	UT-053	3	3
Tape to Tape	UT-054	3	3
Disk to Tape	UT-065	3	4
Tape to Disk	UT-066	3	5
FORTTRAN	FO-031	3	0
Assembler	AS-091	1	17

Users who have these programs at the levels indicated do not have to reorder to obtain this support.


John Fahey
 Director of DP Marketing



IBM World Trade Data Processing

P69-24

PROGRAM ANNOUNCEMENT

**PROBLEM LANGUAGE ANALYZER (PLAN)
AVAILABLE FOR OS/360 AND DOS/360 UNDER
CONTROLLED RELEASE (TYPE II)**

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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- [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.**

S/360 PLAN (DOS) (360A-CX-26L) and S/360 PLAN (OS) (360A-CX-27L) are available under a controlled release procedure described in Memorandum to DP Branch Managers B69-36. Controlled release will remain in effect until July 15, 1969, at which time general availability will be announced.

PLAN is a submonitor and application development system that is especially valuable for use with applications that are highly variable in nature and for problem solving and design.

PLAN is a prerequisite program for a number of Type II programs (see Program Announcements P68-49, P68-125, and P68-157).

The minimum region for PLAN under OS MVT is 44K. A discussion of MFT and MVT storage used by PLAN and PLAN-based applications is described on the reverse side.

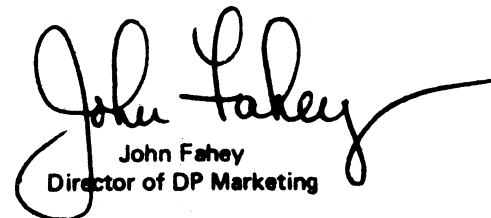
To assist IBM and customer systems designers, a User's Introduction Manual is being prepared that will be intermediate in detail between the present Application Description and Program Description Manuals. The manual will be available June 15, 1969; form number will be announced in a PRL.

The Application Description Manual (H20-0490) has been completely revised. Existing copies should be replaced.

PLAN (DOS) listings (Y20-0350) and PLAN (OS) listings (Y20-0351) are available. Flowcharts will be available March 31 and narratives, July 15, 1969; form numbers will be announced in a PRL.

The Subscription Service (SRL/SS) should be used to ensure that revisions to the System Manuals are received.

Details about the program are on the reverse side.



John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: January 31, 1969
Distribution: All Areas

P69-24

Problem Language Analyzer (PLAN): This program (DOS/360, 360A-CX-26L and OS/360, 360A-CX-27L) is subject to a controlled release procedure (see Memo to DP Branch Managers B69-36). It is a submonitor and application development support system, implemented in an externally uniform way under the S/360 Disk Operating and Operating Systems. It is especially designed to support problem solving and other highly variable applications.

Description: PLAN furnishes five closely related program sets that are mutually dependent. These provide the basic PLAN functions: the submonitor ... the PLAN input language interpreter ... the PLAN input language definer ... the PLAN subroutine package for FORTRAN application programmers ... the Diagnostic Supervisor.

The PLAN programs for each operating system are written to support a single application development interface. (Each set also allows some desirable, but non-standard operations.) As a result, applications may be moved from one environment to another without change, provided the common interface is adhered to. High level languages offer this kind of support for many purposes. PLAN adds uniform methods of user interaction, data definition, and program structure, in the FORTRAN environment.

Because PLAN was designed to support highly variable applications, it offers a new type of modularity. Program linkage definition and intermediate DASD specifications are deferred until execution time, when they can be varied by input data. As a result, much program recoding and re-organization can be avoided.

In further support of this idea, input languages used for application control under PLAN are also defined at the statement level. Both new statement definitions and new program modules can be added to a PLAN application without forcing changes in existing programs and statement definitions.

Features: Free form input ... four levels of input statement hierarchy ... user controlled error recovery and diagnostic features ... powerful input data options, such as default value, override, algebraic and logical expressions for data values, automatic mode conversion and scaling ... dynamic program loading ... extensive subroutine support for FORTRAN application programmers.

Use: The problem solver (application user) communicates with PLAN through PLAN statements designed by the user to suit his needs. Each PLAN statement contains a maximum of 450 characters; terminated by a semicolon. A new statement may immediately follow the semicolon. Each statement usually contains both a command and data. Processing a PLAN statement causes execution of one or more program modules, using accumulated data and the partial results available at that time.

Programmers communicate with the PLAN system to obtain program linkage, error handling, data management and utility functions by entering PLAN subroutines through CALL linkages (normally from FORTRAN).

Customer Responsibilities:

Program Requirements -- Functional program modules must be written for new applications, following FORTRAN conventions. These modules are named and stored in the system library.

Certain FORTRAN operations may terminate the execution of PLAN. In general these are the functions that return control to the operating system. Substitute functions are provided for these under PLAN and should be used.

For each PLAN application, the customer must also design and define the input language that he wants to use.

Staffing -- Capable user personnel are necessary for good results. Creating a PLAN application involves three groups of people. They are (a) users who are to be served by the application (b) programmers who implement functional logic modules, and (c) system designers who actually design the application input language in detail and specify the data and program modules to be used for each kind of input statement.

Education -- Initial education for system designers and key programmers can be accomplished in a four-day workshop school. No more than a few hours of PLAN training will be needed for those who are simply using a PLAN based application. Customers should expect to prepare simplified user's manuals for application users. Their direct use of PLAN program documents is not intended.

Evaluation -- PLAN is designed to support change. An important factor in the long-term success of PLAN applications is user feedback to and continued attention from the application designer.

Special Sales Information: Because PLAN is designed to have new functions added as independent modules and because many application programs (both IBM and customer) will be operating under PLAN, the PLAN program must not be altered in any way. This will not limit the customer's ability to provide special capability and functions as he needs them because such capability can be modularly added. If a customer proposes changing the PLAN code, the SE must contact Manufacturing Industry Development, DPD HQ, White Plains.

Programming Systems:

DOS/360 PLAN -- PLAN runs under S/360 Disk Operating System (DOS/360). It is programmed in the S/360 Assembly language and Basic FORTRAN IV. EXCP is used by PLAN for processing of files.

OS/360 PLAN -- PLAN runs under OS/360 PCP, MFT, or MVT. It is programmed in the S/360 Assembly language and Basic FORTRAN IV. BDAM, BPAM and BSAM are used by PLAN for processing of logical files.

Minimum Systems Configuration: The minimum core requirement for PLAN is 24K for DOS, 32K for OS/360 PCP or MFT, and 44K for MVT. Only part of this space is permanently used by PLAN. About 17K is transient, and this part can also be used by PLAN applications. Under OS/360, an additional 6K is re-enterable, and may be assigned to the RAM or Link Pack areas. The remainder contains buffers, pointers, and control blocks that are permanently resident.

DOS/360 PLAN -- Model 25, 30, 40, 50, 65, or 75 (background partition of 24K bytes or larger) ... all features required for DOS/360 FORTRAN ... Floating-point Arithmetic (#4427) ... one 2311 Disk Storage Drive with 2841 Storage Control in addition to DOS/360 requirements (total of two disk storage drives).

OS/360 PLAN -- Model 30, 40, 50, 65, 75, 85, or 67 in 65 mode. In addition to OS/360 main and auxiliary storage requirements, PLAN requires 32K or larger partition size for PCP-MFT and 44K or larger for MVT ... Floating-point Arithmetic (#4427) ... direct access storage space equivalent to the capacity of one 2311 Disk Storage Drive (any DASD supported for system residence may be used) in addition to OS/360 requirements.

Basic Program Material:

Publications (OS/360 PLAN) -- Application Directory ... Program Description Manual (H20-0594) ... Operations Manual (H20-0596).

Publications (DOS/360 PLAN) -- Application Directory ... Program Description Manual (H20-0594) ... Operations Manual (H20-0597).

If only the form numbered manuals are required, order from Mechanicsburg -- not from PID.

Machine Readable (OS/360 PLAN) -- Object material, PLAN commands, and the sample program are available on one 9-track DTR (800 or 1600 bpi) or one 7-track DTR (800 cpi -- Data Conversion feature required).

Machine Readable (DOS/360 PLAN) -- Object decks, PLAN commands and a sample program are distributed on a 2316 Disk Pack or one reel of 9-track (800 or 1600 bpi) magnetic tape or one 7-track (800 cpi -- Data Conversion feature required) magnetic tape. One reel of tape or one 2316 Disk Pack must accompany the order.

Optional Program Material:

Machine Readable (OS/360 PLAN) -- Source material is available on one 9-track (800 or 1600 bpi) 2400' magnetic tape or one 7-track (800 cpi -- Data Conversion feature required) 2400' magnetic tape. Decks are contained as an unloaded PDS created by the OS utility IEHMOVE.

Machine Readable (DOS/360 PLAN) -- Source decks are available on one reel of 9-track (800 or 1600 bpi) magnetic tape or one 7-track (800 cpi -- Data Conversion feature required) 2400' magnetic tape. Decks and listings are generated by executing the self-loading program contained on the tape on a System/360 Model 30D or larger.

Magnetic Tapes (2400') may be forwarded or ordered (the program order card should accompany the tape order form) 2315 Disk Cartridges must be forwarded to PID with the program order card.

If the track and density requirements are not indicated on back of the program order card, 9-track at 800 bpi will be forwarded.

Ordering Procedure: See Memo to DP Branch Managers B69-36 and DP Sales Activity section of the Branch Office Manual.

Additional Program Support Material:

OS/360 -- Application Description Manual (H20-0490) ... System Manual -- Volume 1, Narratives (to be available July 15, 1969), Volume 2, Flowcharts (to be available March 31, 1969), and Volume 3, Assembly Listings (Y20-0351) ... User's Introduction Manual (to be available June 15, 1969).

DOS/360 -- Application Description Manual (H20-0490) ... System Manual -- Volume 1, Narratives (to be available July 15, 1969), Volume 2, Flowcharts (to be available March 31, 1969), and Volume 4, Assembly Listings (Y20-0350) ... User's Introduction Manual (to be available June 15, 1969).

For further information contact your Regional Manufacturing Industry Marketing Representative.

IBM**IBM World Trade Data Processing****PROGRAM ANNOUNCEMENT****TYPE II PROGRAM FOR OPTICAL SYSTEM
DESIGN (POSD/II) NOW AVAILABLE FOR
1130, DOS AND OS/360****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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

Three versions of the Program for Optical System Design (POSD/II) may be ordered; shipments will begin the week ending February 14, 1969.

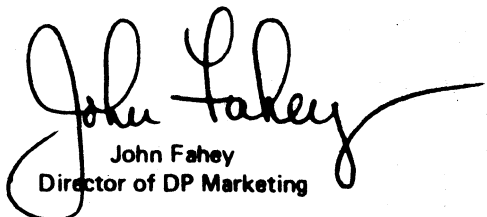
Users of the 1130 Disk Monitor Version 2 should order Program Number 1130-EO-14X. Note that this version of POSD operates under 1130 PLAN (1130-CX-25X), which must be ordered separately.

Users of POSD/II (DOS) (360A-EO-16X) and POSD/II (OS) (360A-EO-15X) must obtain the appropriate version of S/360 PLAN. However, DOS PLAN (360A-CX-26L) and OS/360 PLAN (360A-CX-27L) are under a controlled release procedure described in Memorandum to DP Branch Managers B69-36.

POSD/II assists optical designers in analyzing, evaluating, and optimizing a lens design. It contains as a subset the capabilities of 1130 POSD (1130-EO-11X and 1130-EO-12X) which remain available for 8K 1130 users. Plotting features of POSD/II are supported only on 1130 systems equipped with the 1627 Plotter.

The System Manuals (listings, flowcharts, and flow-chart narratives) will be available March 31, 1969 from Mechanicsburg; form numbers will be announced in a PRL. Preliminary copies of this material can be obtained from Manufacturing Industry Development, DPD HQ.

See the reverse side for more details.


John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: January 31, 1969
Distribution: All Areas

P69-25

Program for Optical System Design/II (POSD/II) POSD/II contains as a subset the analysis, evaluation, and optimization functions of the 1130 POSD (1130-10-11X and 1130-10-12X). POSD/II extends this application to S/360 users and offers improved performance to customers who have added core and disk drives to their 1130 systems.

Users of the 1130 Disk Monitor Version 2 should order Program Number 1130-10-14X. Note that this version of POSD operates under 1130 PLAN (1130-CX-25X), which must be ordered separately.

Users of POSD/II (DOS) (360A-10-16X) and POSD/II (OS) (360A-10-15X) must also obtain the appropriate version of S/360 PLAN. DOS PLAN (360A-CX-26L) and OS/360 PLAN (360A-CX-27L) are under a controlled release procedure described in Memorandum to DP Branch Managers B69-36.

Description: POSD/II consists of an interrelated set of programs providing a complete facility for the geometric analysis of image forming optical systems, together with a means for automatically correcting such systems. The program has the capacity to analyze systems containing prisms, toric surfaces and diffraction gratings in addition to refracting or reflecting elements. The designer has access to outputs such as spot diagram information, radial energy distributions, and geometric frequency response tables.

Features:

- Maintenance of 30 surfaces in core.
- Thorough set of utility options.
- Ray tracing speeds of .10 sec./ray surface.
- Enhanced energy distribution and frequency response data presentation.
- Vignetting control by ray aiming option.
- Energy distribution by 5% energy increments.
- Comprehensive plotting features (1130).
- Automatic Design -
 - Index and dispersion variables
 - Boundary Condition Controls
 - Maximum of 20 variables

Use: The program is under the control of the designer through user written commands. These commands provide data and bring into core the program modules necessary for the required problem solution. In automatic design, the program accepts as input target values and parameters. The program is iterative in this mode. If no solution can be found, the designer may set new targets.

Customer Responsibilities: The lens designer must be able to operate the 1130 system or S/360 console, or he must devise satisfactory batch problem solving procedures for S/360. He must be familiar with the operating rules and conventions for POSD/II. The customer must produce his own required lens library and glass tables. Utility programs assist him in this task.

Programming Systems:

1130 POSD/II - is written in basic FORTRAN IV and operates under the IBM 1130 Problem Language Analyzer (PLAN) which in turn operates under the 1130 Monitor Version 2.

DOS/360 POSD/II - is written in basic FORTRAN IV and operates under the IBM Problem Language Analyzer (PLAN) for DOS/360 which in turn operates under the Disk Operating System/360.

OS/360 POSD/II - is written in basic FORTRAN IV and operates under the IBM Problem Language Analyzer (PLAN) for OS/360 which in turn operates under the Operating System/360.

Machine Configuration:

Minimum 1130 System Configurations -- 1131 Model 2C (16K) Processing Unit ... 1442 Card Read Punch Model 6 ... 1132 Printer ... 2310 Disk Storage Drive Model B1 ... 1133 Multiplex Control Enclosure with Channel Multiplexer (#1865) ... two 2315 Disk Cartridges (dedicated to POSD/II). The 1627 Plotter is required only for POSD/II plotting option.

Expanded 1130 System Configurations -- Added speed and throughput may be achieved using the 1131 Model 3C (2.2 microsecond cycle time) and combinations of the 1403 Printer, 1442 Card Read Punch Model 7, 1442 Card Punch Model 5, and 2501 Card Reader.

Minimum DOS/360 Configurations -- System/360 models supported by DOS/360, all features required by DOS/360, plus Floating Point Arithmetic (#4427). In addition to main and auxiliary storage required by DOS/360 and the DASD required by PLAN, POSD/II requires a 56K background partition and one additional 2311 Disk Storage.

Minimum OS/360 Configuration -- System/360 models supported by OS/360. In addition to the S/360 main and auxiliary storage required by OS/360 and the DASD used by PLAN, POSD/II requires a 100K minimum partition or region and two million bytes of DASD.

Basic Program Material:

1130 Publications -- Application Directory ... Program Description Manual (H20-0577) ... Operations Manual (H20-0578).

DOS/360 Publications -- Application Directory ... Program Description Manual (H20-0577) ... Operations Manual (H20-0578).

OS/360 Publications -- Application Directory ... Program Description Manual (H20-0577) ... Operations Manual (H20-0578).

If only the form numbered manuals are required, order from Mechanicsburg -- not from PID.

1130 Machine Readable -- Object Decks, Sample Job Control cards, and the Sample Problem Decks are furnished on one customer-supplied 2315 Disk Cartridge.

DOS/360 Machine Readable -- Object Decks, Sample Job Control cards, and the Sample Problem Decks are available on one reel of magnetic tape (2400'); 9-track at 800 or 1600 bpi, or 7-track at 800 cpi (Data Conversion feature required), or one 1316 Disk Pack.

OS/360 Machine Readable -- Object Decks, Sample Job Control cards, and the Sample Problem Decks are furnished on a 9-track DTR at 800 or 1600 bpi, or one 7-track DTR at 800 cpi (Data Conversion feature required).

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

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.

Optional Program Material:

1130 Machine Readable -- Source Decks are available on one 800/1600 bpi 9-track DTR.

DOS/360 Machine Readable -- Source Decks are available on one Distribution Tape Reel (DTR) 9-track 800 or 1600 bpi, or one DTR 7-track 800 cpi (Data Conversion feature required).

OS/360 Machine Readable -- Source Decks are available on one Distribution Tape Reel (DTR) 9-track 800 or 1600 bpi, or one DTR 7-track 800 cpi (Data Conversion feature required).

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

Ordering Procedures: See Branch Office Manual, DP Sales Activity section.

Additional Program Support Material: Application Description Manual (H20-0489) ... System Manuals (to be available March 31, 1969).

Reference Material: PLAN Application Description Manual (H20-0490) ... PLAN Program Description Manual (H20-0594) ... PLAN Operations Manual: 1130 PLAN (H20-0595), OS PLAN (H20-0596), DOS PLAN (H20-0597).

For further information contact your Regional Manufacturing Industry Marketing Representative.

**NEW VERSION OF TPAD (IBM
CONFIDENTIAL) IS AVAILABLE**

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.

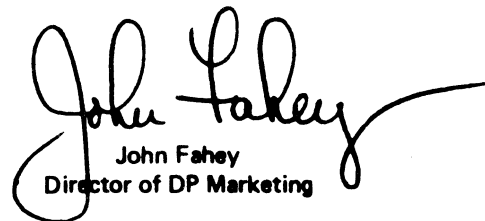
- [1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.
- [2] Advance copies of the form numbered publications mentioned in the 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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

Version 2 of TPAD, with DOS/360 Release 16 support, is available on an *IBM CONFIDENTIAL* basis. The new version contains the full capability of Version 1 and, in addition, provides the following new features:

- Improved BTAM definition capabilities including subtasking, branching, and additional macro support.
- The capability to repeat macros and tasks without use of additional storage.

Current users will receive a prepunched program order card and a letter announcing availability of Version 2. They should use this card when ordering Version 2.

See the reverse side for details and the ordering procedures for new users.


John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: February 7, 1969
Distribution: All Areas

Teleprocessing Analysis and Design Program (TPAD): TPAD is an IBM Confidential program, therefore, it must not be released to customers. It provides 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 Teleprocessing performance requirements. (360A-SE-27R)

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 and identifies critical areas.

TPAD's library contains the system's characteristics of the OS/360 MFT and DOS/360 systems. This will include the supervisor, data management, and QTAM/BTAM characteristics which pertain to Teleprocessing systems. With TPAD the user will only be required to specify the macros needed to describe his Teleprocessing 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: The program evaluates a Telecommunication System using System/360 hardware that consists of one CPU which can be either 2030, 2040, or 2050 ... allows for the multiplex channel and up to three selector channels in the system ... analyzes performance of user-defined message control programs operating in a real time environment ... has a library which contains the characteristics of OS/360 MFT's and DOS/360's supervisor, data management and QTAM/BTAM ... calculates message turnaround time for all message types ... can handle messages of the following type: inquiry, inquiry update, data collection, and message switching ... configures and assigns the auxiliary storage devices on the channels ... aids in the selection of the direct access devices by providing performance analysis for several device types ... provides file layout for the direct access devices by equalizing throughput and space utilization on each device ... provides channel interference statistics ... provides basic data required in the design of buffer pool (for the queued request scheme) ... provides general performance characteristics.

Special Sales Information: This program is not to be modified by the user due to the complexity and sensitivity of the algorithm used. In no case may the program be given to a customer. However, its output and input may be shown and discussed with him. The logic and timings included in TPAD reflects MFT-I and DOS/360 Release 16. However, because of the similarities in program execution parameters, it is reasonable to use this data to plan for MFT-II system design and installation.

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 mainly in FORTRAN language, however, there are some routines which are written in the Assembly language. The program will operate under the control of the DOS/360 Release 16 and up.

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.

Basic Program Material:

Publications -- Application Directory ... Program Description and Operations Manual (Z20-1884-1). If only the form numbered manual is required, order it from the IBM Distribution Center, Mechanicsburg -- not from PID.

Machine Readable -- The program object deck, sample problem deck and sample problem program output listing are available on one 9-track DTR (800 or 1600 bpi) or one 7-track DTR 800 cpi (Data Conversion feature required).

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

DTRs will be supplied by PID; no tape submittal is required.

Ordering Procedure: To order TPAD, you must apply for a letter of authorization from your Field Systems Center Manager. The letter from the field systems center must state that there is a need for this IBM Confidential program and that the branch systems engineers are qualified in the use of the program.

The letter of authorization should be submitted to PID along with a program order card. One program order card must be submitted for each program.

A copy of the letter of authorization should be sent to the Manager of Department H11, DPD Technical Center, P.O. Box 390, Building 850, Poughkeepsie, N. Y. 12602

Additional Program Support Material: Application Description (Z20-1812-2) and TNL Z20-1909.

For further information contact your field systems center.

**1130 RIGID FRAME SELECTION PROGRAM
(TYPE II) AVAILABLE UNDER CONTROLLED
RELEASE PLAN****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 latter, availability will be announced in the Weekly DP Marketing Publications Release Letter.
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- [4] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

The 1130 Rigid Frame Selection Program (1130-EC-09L) may now be ordered. However, the program is under a controlled release plan described in Memorandum to DP Branch Managers B69-19. It is scheduled to be available April 30, 1969 on a general basis.

RFSP operates under the Problem Language ANalyzer (PLAN) (1130-CX-25X), which must be ordered separately.

RFSP will assist customers who must design two or three hinged rigid frames and other simpler, structural elements.

It contains design logic for steel, laminated wood, and reinforced concrete structural elements and will be of direct interest to manufacturers of prefabricated buildings and to consulting engineers and architects.

The principal value of RFSP is its ability to produce a least weight design, within the range of material sizes available to a particular user. Designs produced by RFSP will satisfy one user-specified set of loading and stress specifications for generalized, non-symmetric frames. In the more typical case, symmetric frames can be designed for three standardized load cases at one time.

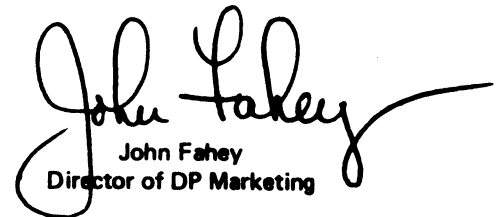
RFSP uses building profile dimensions, applied loads, and the user's choice of material dimensions to produce a design.

Preliminary copies of the Systems Manual will be available February 26, 1969, from Manufacturing Industry Development, DPD HQ (to be available from Mechanicsburg March 31, 1969; form number will be announced in a PRL).

The DOS/360 and OS/360 RFSP programs will be available November 30, 1969 (see P68-172).

Details are on the reverse side.

Published by DP Sales Publishing Services, WTHQ



John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

Release Date: February 7, 1969
Distribution: All Areas

P69-27

Rigid Frame Selection Program: RFSP is subject to the controlled release procedure outlined in Memorandum to DP Branch Managers B69-19. (1130-EC-09L)

Description: RFSP assists customers who must design two or three hinged rigid frames and other simpler, structural elements.

It contains design logic for steel, laminated wood, and reinforced concrete structural elements. RFSP is of direct interest to manufacturers of prefabricated buildings and to consulting engineers and architects.

The principal value of the program is its ability to produce a least weight design, within the range of material sizes available to a particular user. Designs produced by RFSP will satisfy one user-specified set of loading and stress specifications, for generalized, non-symmetric frames. In the more typical case, symmetric frames can be designed for three standardized load cases at one time.

RFSP uses building profile dimensions, applied loads, and the user's choice of material dimensions to produce a design.

Features:

- . Has direct design of least-weight two- and three-hinged rigid frames by automatic, successive approximation, using outside building dimensions and applied loads.
- . Allows several inventory policies to be evaluated for a product line, by creating section economy tables from various inventory specifications.
- . Provides a convenient language for users to specify design and inventory variables.
- . Calculates dimensions and weights of frames and their components.
- . Allows for the design of members of other structures, given the results of a structural analysis.
- . Supports interactive operation via the 1130 keyboard.

Use: Inventory calculations are made once for each different choice of material types and sizes. Design calculations are made for each different structure, for each different combination of dead, live, and wind load.

Users describe inventory choices, external structure dimensions, and applied loads in a convenient free form language, implemented under the Problem Language ANalyzer (PLAN). These statements determine which inventory, analysis, input and output programs are executed. Results are printed for inspection and may be stored on disk for modification and recalculation.

Customer Responsibilities: Users should be familiar with the theory and practice of rigid frame design. At least one person in the installation should be familiar with the use of 1130 PLAN (1130-CX-25X) and the 1130 Disk Monitor System. No programming or classroom training is required unless the customer decides to alter or extend the system. In this case, he must be familiar with FORTRAN, PLAN, and structural engineering.

Special Sales Information: If this program is to be used regularly, the volume of output is such that an 1132 or 1403 Printer should be available. One to six additional disk cartridges are also advised, depending on the frequency with which the various design options are used.

Programming System: The RFSP/1130 is written in FORTRAN and operates under the 1130 Problem Language ANalyzer (PLAN) which, in turn, operates under the 1130 Disk Monitor Version 2.

Minimum 1130 System Configuration: 8K 1131 Model 2B Central Processing Unit ... 1442 Card Read Punch Model 6 ... one 2315 Disk Cartridge (see Special Sales Information).

Expanded 1130 Systems: RFSP throughput and usefulness are increased by the addition of a line printer, larger main storage, a 2310 Model B1 or B2, and faster main storage, in that order of importance. 1131 Models 2C, 2D, 3B, 3C, and 3D may be used. All combinations of 1130 line printers, card readers, and card punches supported by FORTRAN can be used for RFSP.

Basic Program Material:

Publications -- Application Directory ... Program Description and Operations Manual (combined) (H20-0580). If only the form numbered manual is required, order from Mechanicsburg -- not from PID.

Machine Readable* -- Object decks and sample programs are supplied on a 2315 Disk Cartridge, which must accompany the program request card.

Optional Program Material:

Machine Readable* -- Source decks are supplied on two 9-track 800 or 1600 bpi Distribution Tape Reels (DTRs). Decks and listings are produced by executing the retrieval program contained on the tapes, using a S/360 Model 30 or larger, with at least 16K main storage and one 2400 series tape drive.

Ordering Procedure: See Memorandum to DP Branch Managers B69-19.

*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.

Additional Program Support Material: Application Description Manual (H20-0598) ... Systems Manual (available March 31, 1969).

Reference Material: PLAN Application Description Manual (H20-0490-1) ... PLAN Program Description Manual (H20-0594) ... 1130 PLAN Operations Manual (H20-0595).

For further information contact your Regional Manufacturing Industry Marketing Representative.

**OS/360 RELEASE 17 SCHEDULED
FOR MARCH 31****Note to World Trade Readers**

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- [4] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

Published by DP Sales Publishing Services, WTHQ

Release 17, containing many previously announced components, incremental improvements and maintenance, is scheduled for availability by March 31, 1969. This release is a consolidation of components originally announced for February, April, and June, plus others that had unannounced availability dates.

The components improved from June 16 are:

COBOL E and F Rerun (P68-107)
Checkpoint/Restart (PCP and MVT portions only) (P68-107)
BTAM (2780 USASCII) (P68-108)
BTAM/QTAM for World Trade Telegraph
Main Storage Hierarchy Support (P68-118)

The components improved from April 30 are:

BTAM (BSC connection to M20) (P68-38)
RJE-MFT (P68-34)

The components originally scheduled for February 15 are:

FORTTRAN Subroutines for Data Transmission
between S/360 and 1130 (P67-122)
Satellite Graphic Job Processor (P67-122)

The components which previously had unannounced availability dates are:

SAM - Variable Record Extensions
User Label Support (P67-123)

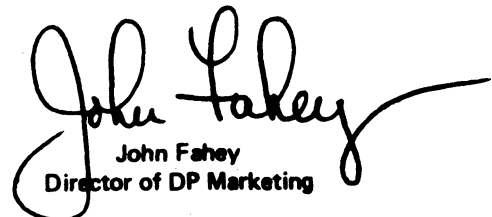
Maintenance includes corrections of over 800 APARs.

In addition, there are many incremental improvements that provide new data management capabilities, enhanced operational characteristics, functional extensions, improved performance and language capabilities.

OS/360 MVT Model 65 Multiprocessing, originally scheduled for February 15, will now correspond to first customer shipment.

For detail information of the components of the release see the inside pages.

Exact delivery date and ordering instructions for Release 17 will be announced by a P Letter.


John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

Release Date: February 14, 1969
Distribution: All Areas

MVT Model 65 Multiprocessing

OS/360 MVT Model 65 Multiprocessing was announced for availability on February 15, 1969 in P68-2. This support will be available with the first customer shipment of Model 65 Multiprocessing.

Rollout/Rollin will be available for Model 65 Multiprocessing with first customer shipment. This removes one of the restrictions listed in P68-2.

Customers affected should be notified.

Information regarding the Model 65 Multiprocessing feature will appear in OS/360 SRLs distributed with Release 17. The information related to Multiprocessing is to be used for planning purposes only.

MAJOR SYSTEM DEVELOPMENTS

Advanced Checkpoint/Restart

This new Checkpoint/Restart facility available in Release 17 under PCP and MVT provides many advantages over the Release 11 function. Functional improvements include:

Automatic restart, operator deferred restart, or programmer deferred restart from a checkpoint.

Automatic, operator deferred or programmer deferred step restart with no checkpoint entry.

Unit and volume switching at restart time.

External suppressing of checkpointing and restarting through JCL. Checkpoint data sets on any BSAM or BPAM supported device. Special data set dispositions to avoid scratching data sets required for restart.

SYSGEN facility to permit user selection of ABEND conditions resulting in an automatic restart.

C/R usable by SORT through SORT control cards, the RERUN clause in COBOL E or F programs and the checkpoint macro in assembler programs.

Checkpoint capability at an end of volume condition.

It should be noted that the 2302 is not supported.

Main Storage Hierarchy Support

Main Storage Hierarchy Support can divide the main storage into two hierarchies (processor storage and 2361). Extensions to various assembler language macro instructions and job control language statements permit:

Establishing a storage hierarchy structure.

Acquiring space in either or both hierarchies.

Loading modules into either hierarchy.

This support is provided under PCP, MFT and MVT. Details are in the SRL Introduction to Main Storage Hierarchy Support for IBM 2361 Models 1 and 2 (C27-6942-0) (P68-118).

Remote Job Entry for MFT

RJE/MFT provides the identical facilities first made available in Release 15/16 for MVT. Because MFT requires less core, RJE/MFT can be employed on a 256K CPU. As with MVT/RJE, remote work station support is provided for System/360 Models 25 and larger, 2780 data transmission terminals and 1130 computing systems. The SRL IBM System/360 Operating System Remote Job Entry (C30-2006) should be referred to for detailed information.

Satellite Graphic Job Processor (SGJP)

The SGJP permits OS/360 job definition and initiation from a 2250 Display Unit attached to a remote 1130 computing system. SGJP enables definition of an OS/360 job to run in conjunction with a related 1130 program. New FORTRAN subroutines assist in data transmission between the two programs, one in the 1130 and one in the S/360. SGJP can also be used to specify and queue OS/360 jobs from the 2250 for normal batch processing under MFT or MVT. SGJP is a logical extension of the OS/360 Graphic Job Processor (GJP). Details appear in the SRL: System/360 OS and 1130 DMS: User's Guide for Job Control from a 2250 Attached to an 1130 (C27-6938).

SORT/MERGE

Improvements in SORT/MERGE include:

2321 Data cell is supported as an input and output device. 2420-7 tape drive is supported as an input, output or work device. 2870 multiplexer channel capabilities are considered in optimization.

Input and output support via SAM for variable record extension (VRE) is provided.

New Checkpoint/Restart facilities under PCP and MVT are supported under SORT.

New techniques are provided for 2314 disk sort improving small sorting performance.

SORT now accepts blocked SYSIN control cards.

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, is positioned on the left side of the header. It is set against a background of vertical lines of varying thickness, creating a striped effect.

IBM World Trade Data Processing

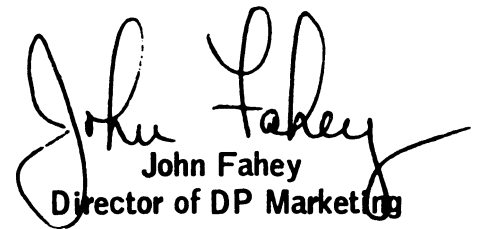
Type II
Program Announcement

IBM SYSTEM/360 MODEL 44 PRO-
GRAMMING SYSTEM DISK RESIDENT
ALGOL COMPILER

The Model 44 ALGOL Compiler will not be available March 1, 1969, as announced in Program Letter P68-116A.

The availability date of this program will be announced September 1, 1969.

If this change affects any of your customers, please advise the Director of DP Marketing in your area immediately.

A handwritten signature in black ink, reading 'John Fahey', is written over the typed name and title. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

John Fahey
Director of DP Marketing

Release Date: February 14, 1969

Distribution: All Areas

P69-28A

**VERSION 4 OF RAX IS AVAILABLE
(TYPE II)****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.**

Version 4 of System/360 Remote Access Computing System (RAX), a time-sharing, remote computing system for the System/360 Models 30, 40, and 50, is now available (360A-CX-17X). It supersedes Version 3.

This version incorporates all features of RAX Version 3 and in addition allows the use of IBM 2741, No. 33 and No. 35 Teletypewriters.

The installation specifies, by means of system generation parameters, the terminal types it will use. These parameters are used to delete unnecessary system modules and thus provide for the maximum number of devices on a specific machine size. In RAX Version 4, the "enter data" message has been replaced by an underscore, backspace (2741, 1050) or period, backspace (TTY).

Terminal Configurations ... Terminal configurations supported by RAX Version 4 are extremely varied and depend on system memory size:

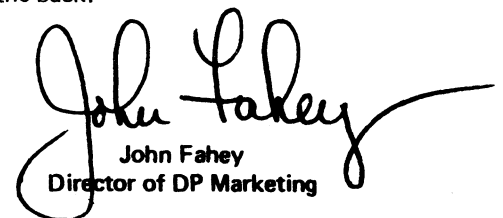
256K byte machine - up to 63 terminals in any combination (maximum of eight 2260s may be used on a system).

128K byte machine -
up to 36 1050s or 2741s or Teletypewriters.
up to 32 of any combination of any two of the above terminals.
up to 28 of a combination of all three of the above terminals (a maximum of eight 2260s may be used on a system). Use of the first 2260 reduces the maximum number of typewriter-keyboard terminals by nine. Each additional 2260 reduces the maximum by three.

64K byte machine - up to ten 1050s or IBM 2741s or Teletypewriters. (2260s are not supported.)

TNL (N20-1931) to the Program Description Manual (H20-0354-1) ... TNL (N20-1937) to the Operations Manual (H20-0355-1) ... TNL (Y20-0352) to the System Manual (Y20-0101-2) are available from Mechanicsburg.

Details are on the back.


John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: February 14, 1969
Distribution: All Areas

Remote Access Computing System (RAX): RAX provides sustained access to a System/360 from remote locations to enable programmers, engineers, scientists, and other users to obtain fast turnaround and reduced problem-solution time for their computational problems. (360A-CX-17X)

Description: RAX is a time shared, remote computing system. Users of RAX can submit Basic FORTRAN IV and Basic Assembler Language jobs for compilation and time-sliced execution from local and remote terminals, simultaneously with similar operations from other on-line equipment at the computer site. Programmers can compile, modify, and execute programs from their terminals while non-computer oriented users can be conversationally interacting with programs previously stored in the RAX library.

Terminal users of RAX can access up to 64 disk units to read or write permanent or temporary files. Multiple users are able to access these files simultaneously. The temporary files allow preparation of intermediate results storage for later recall in that program or subsequent programs.

RAX user flexibility is provided by a modular and compatible design. Three System/360 Models (30, 40, and 50) and three memory sizes (64K, 128K, and 256K bytes) are supported. Four terminals (the IBM 1050 Data Communications Terminal, the IBM 2741 Communications Terminal, the Nos. 33 and 35, ASR and KSR Teletypewriters, and the IBM 2260 Display Station) can be used depending on system memory size. Two 2311 Disk Storage Drives are necessary.

Features:

- Up to 63 terminals can be used with RAX, depending upon the amount of core memory available.
- Terminals may be 1050s, 2741s, or TTYs which provide keyboard input, typewriter output as well as 2260s, which provide keyboard input and CRT display of up to 12 lines of output. In addition, the 1050s provide card and paper tape input-output, and the TTYs provide paper tape input. All terminal device types may be combined on the same system provided that the configuration restrictions are observed. The 1050s, TTYs, and 2741s may be at a remote location from the computer. The 2260s must be local. The TTYs must be dial up.
- The terminal user may save source or object programs and data or program output in the RAX user library. Saved information may be shared with other terminal users. File security is provided by means of a lock code which prevents unauthorized deletion or modification of any file in the library.
- The terminal user may use permanent or temporary files for input or output. When using the File Input-Output capability of RAX the user is able to specify the file characteristics (logical record size, file name, volume name, disposition, etc.) from the terminal. Multiple users are able to access the permanent files simultaneously. File Input-Output requires a minimum of 128K bytes and one 2311 in addition to system residence and user library units.
- A restart capability is provided for resumption of jobs after recovery from system's error. Upon recovery, RAX will indicate to each user the last line of input accepted or repeat the last few lines of output.
- The 2260 Display Stations allow entry of up to twelve lines of input at a time. The Non-Destructive Cursor feature is used to provide for single character modification within a line when updating program or data files.
- Object program execution storage of 32K bytes is provided on the minimum memory configuration. 64K bytes are available on the 128K and 256K byte configurations.
- Users of RAX may enter programs and data one line at a time from their terminals or use a single terminal command to insert a previously stored data or program module into their job stream at compile time.
- The user may enter either USASI Basic FORTRAN IV or Basic Assembler jobs from his terminals. All input-output must be programmed in FORTRAN and the execution of privileged instructions in a user program is not allowed.
- A DISPLAY command is available for total or selective listing of a user's input or library files.
- RAX provides for the running of background batch processing through the 2540 Card Read Punch. The background batch jobs utilize the machine when it is not serving the terminals. Virtually any job prepared for terminal processing will run in batch mode. In addition, the batch can address file input-output on magnetic tape. Batch mode makes possible lengthy computer runs where turnaround time is not of prime importance and can be used to enter large programs and data files into the library.

Use: Sustained access to a System/360 from remote locations enable engineers, scientists, and other users to realize fast turnaround and reduced problem solution time. FORTRAN programmers can compile, modify, and execute programs from remote terminals, while non-programmers may use programs previously stored in the RAX library. Familiarity with the RAX terminal command language and the operation of the terminal device enables the user to exploit the computational power of System/360 in a convenient manner.

RAX provides a facility for conversational interaction between a user and an executing program. This is accomplished by the use of input/output statements in a problem program which addresses the user's terminal as an I/O device. Thus, programs can be written to take advantage of the "on-line" presence of the user by permitting him to selectively modify his input, observe intermediate results, and alter parameters - or perhaps the execution sequence of the program based on his interpretation of these results.

Customer Responsibilities: A customer using RAX must take the following steps before installation to insure satisfactory operations:

1. Order and install (satisfactorily) the communications equipment required.
2. Train operators to use the terminal command language, the programming languages, and terminal operations.
3. Familiarize a systems programmer with the internal operations of the system.

Sales Information: Most System/360 Models 30, 40, and 50 customers and prospects are potential prospects for RAX.

- RAX might be the justification for a system in engineering research firms, in universities, or in engineering departments of large firms.
- RAX provides justification for upgrading and adding equipment for customers who want to provide access to a computing service for their scientific and technical personnel.

RAX enables IBM customers to acquaint themselves with remote computing time-sharing systems. A small additional investment permits batch-oriented installations to evaluate the benefits of this system concept for their own operations. By building a library of interactive application programs, an installation can extend the capabilities of System/360 to a broader range of users.

Programming System: RAX is written in BPS Basic Assembler Language.

Minimum System Requirements: System/360 Model 30F with one Selector Channel, Interval Timer, Storage Protection, Decimal Arithmetic, Floating Point Arithmetic features ... 1052 Printer-Keyboard Model 8 as a system console ... 2821 Control Unit Model 1 ... 2540 Card Read Punch ... 1403 Printer Models 2, 3, 7 or N1 ... 2841 Storage Control ... two 2311 Disk Storage Drives; for attaching keyboard-typewriter terminals either a 2702 Transmission Control or a 2701 Data Adapter Unit. Up to ten keyboard-typewriter terminals may be attached to the minimum configuration. The 2260 Display Stations and terminal file capability are not supported on the 64K byte configuration. (For 2701 and 2702 features see Terminal Configuration Section.)

Memory Size Restrictions: The number of RAX terminals supported for the allowable memory configurations are:

- 64K - 1050 or 2741 or TTY up to 10 terminals
- 128K - 1050 or 2741 or TTY up to 36 terminals
 - up to 32 of any two of the above
 - up to 28 if all three are included
 - if 2260's are to be included in the system, the number of terminals supported in addition to the 2260's may be calculated by using the following formula:
 $T = M - 3(n + 2)$
T = number of keyboard typewriter terminals RAX will support
M = maximum number of terminals due to installation configuration (i.e., 36, 32, 28 as explained above)
n = number of 2260's required (maximum of eight).
- 256K - up to 63 terminals in any combination (maximum of eight 2260s).

File Configuration: A minimum of two 2311 disk units are required by RAX but the system can use up to 64 disk units.

- One of the required disk units is for system residency and the other for the user library.
- Systems with 31 or more terminals require an additional 2311 for system residency.
- Up to six additional 2311s may be used for the user library storage.
- One additional 2311 is required for storage of permanent and temporary files when the terminal file input output capability is used.
- Additional 2311s may be used to store permanent and temporary files, but the total number of 2311s on a system may not exceed 64.
- Up to four 2400 tape drives (7- or 9-track in any combination) may be used in place of 2311s for file input-output for the background batch jobs.

Terminal Configuration:

IBM 1050 Data Communications Terminal: The IBM 1050 may be attached to the system through a 2701 or 2702. Specifications are:

- IBM 2701 Data Adapter Unit
 1. Terminal Adapter Type I (#4645 or 4646)
 2. Appropriate line adapters (up to 4)
- IBM 2702 Transmission Control
 1. Terminal Control Type I (#4615)
 2. Selective Speed feature (#9684)
 3. Appropriate line adapters

The minimum IBM 1050 Data Communication Terminal consists of: one 1051 Control Unit Model 2 with the First Printer Attachment (#4408) and one 1052 Printer-Keyboard Model 2. The 1052 Printing Element used by RAX is Data 1 font (#9575 or #9576). The 1050 can utilize the 1054 Paper Tape Reader or 1056 Card Reader attached as Reader #1 on the 1051. For use with the 1056, cards can be prepared on either the 26 or 29 keypunch. The 1056 must have the Extended

Character Read Special Feature.

Below are indicated 1050 special features that can be used with RAX (A); features that can be attached but are not utilized by the system (B); and features that must not be attached to a RAX terminal (C). (AR) status means that, where the component is installed, the referenced feature must be available.

Component	Feature No.	Status
1051 Control Unit Model 1 & 2		AR
<u>I/O Unit Attachments</u>		
Card Punch Attachment	1635	B
1st Printer Attachment for Mdl 1 or 2	4408	AR for 1052
1st Punch Attachment	4410	AR for 1055, 1057, 1058
1st Reader Attachment	4411	AR for 1054, 1056
2nd Printer Attachment	6381	B
2nd Punch Attachment	6383	B
2nd Reader Attachment	6384	B
Auto Fill Char Gen	1287	B
Auto Ribbon Shift & Line Feed Select	1295	B
Audible Alarm	1307	B
Automatic EOB	1313	A
CPU Attachment	3130	C
Forms Stand Stacker	4450	B
1447 Attachment	4461	C
Home Comp Recgntn	4605	B
Home Correction	4607	B
Home Loop Input Component Interlock	4606	B
IBM Line Adapter	4647	A
Subchannel 1	4691	A
Subchannel 2	4692	A
Subchannel 3	4693	A
Subchannel 4	4694	A
IBM Line Adapter	4790	A
I/O Comp Table	4632	B
Keyboard Request	4770	A
Line Correction	4795	B
Line Cor Release	4796	B
Master Station	5050	B
Open Line Detection	5465	B
Reader Stop-Prefix J	6060	B
Switch Unit		
for Mdl 1	7660	C
for Mdl 2	7661	C
Tel Line Attachment	7873	C
Vertical Forms Control	8715	A
<u>1052 Printer-Keyboard Mdl 1 or 2 only</u>		
Accelerated Carrier Return	1006	B
Auto EOB	1313	A
Forms Feed Control	4452	A
Home Loop Input Component Interlock	4606	B
Open Line Detection	5465	B
<u>1053 Printer Mdl 1</u>		
<u>1054 Paper Tape Reader Mdl 1</u>		
Edge-Punch Read	3570	C
Reels, Center Roll Feed and Take-up	6120	B
Telegraph Speed	7910	C
<u>1055 Paper Tape Punch Mdl 1</u>		
Edge-Punching	3571	C
Reel Take-up	6121	B
<u>1056 Card Reader (Mdl 1 Recommended)</u>		
Card Reader Program	1640	B
Extd. Character Reading	3861	AR
Feed, 51 Col Card	4004	C
Feed, Short Card Pack	4006	C
High Speed Skip	4595	B
Telegraph Speed	7910	C
<u>1057 Card Punch Mdl 1</u>		
Extd. Character Punching	3860	AR
Operator Panel	5478	C
<u>1058 Printing Card Punch Mdl 1</u>		

2741 Terminal

The RAX system required the 2741 to have the Interrupt feature (#4708) on the terminal device and the 2741 BREAK feature (#8055) on the 2702 Transmission Control Unit. The RAX system does not support the 2741 on the 2701 Data Adapter Unit. Complete specifications are:

2702 Transmission Control

1. Terminal Control Type I (#4615)
2. 2741 Break Feature (#8055)
3. Selective Speed feature (#9684)
4. Data Set Line Adapter (#3233)

2741 Data Communications Terminal

1. Standard Correspondence IBM SELECTRIC® Keyboard
2. Interrupt Feature (#4708)
3. Manifold 72 type elements (#9806 or 9810)

4. 10 char/in character spacing (#9104)

5. Data set attachment: #9114 for use with Western Electric 103A2 dial up data set ... #9115 for use with Western Electric 103F2 direct data set
6. If data set attachment #9114 is specified, Dial Up feature (#3255) is required.

No. 33 and No. 35 Teletypewriter

Teletypewriter terminals may be ordered through local Telephone Company representatives. RAX will support ASR and/or KSR Teletypewriter terminals. The teletypewriter keyboard should have a left arrow as upper case letter 'O'. At installation time, the answerback drum of the teletypewriter may be encoded with any sequence the user desires.

2701 Specifications: Telegraph Adapter Type II (#7885)

2702 Specifications: Telegraph Terminal Control Type II (#7912) ... Data Set Line Adapter (#3233) one per line.

2260 Terminal

For systems larger than 64K, support is provided for keyboard-typewriter terminals and 2260 Display Stations. The 2260 Display Station must have an Alphameric Keyboard feature (#4766) and be connected to the multiplexer channel through a directly attached 2848 Display Control Model 3 with the Non-Destructive Cursor feature (#5340 and #5341). One 2848 Model 3 with up to eight 2260 Display Stations is supported.

Maximum Support Configurations: System/360 Model 50H (256K byte memory) with three Selector Channels, Interval Timer, Storage Protection, Decimal Arithmetic, Floating Point Arithmetic, 1052 Printer-Keyboard Model 7, 2540 Card Read Punch, 1403 Printer Models 2, 3, 7, or N1, up to sixty-four 2311 Disk Storage Drives, up to sixty-three keyboard-type-writer terminals (connected via communications equipment to 2701 and/or 2702 control units), one 2848 Display Control Model 3 with Non-Destructive Cursor feature and up to eight 2260 Display Stations with the Alphameric Keyboard feature (with maximum of sixty-three terminals in all, four 2400 tape drives (with a maximum of 64 disk and tape drives).

Basic Program Material:

Publications -- Application Directory ... Program Description Manual (H20-0354 I), Operations Manual (H20-0355-1). If only the form numbered manuals are required, order them from the IBM Distribution Center, Mechanicsburg -- not from PID.

Machine Readable -- Object program load modules and sample problem decks are available on either 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 Decks and Assembly Listings are available. Either or both may be ordered. Each requires one 2400' magnetic tape 9-track (800 or 1600 bpi) or one 2400' magnetic tape 7-track (800 cpi) - Data Conversion feature required.

Note: If the distribution medium is not specified on the program order card, 9-track at 800 bpi will be forwarded.

DTRs are 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).

Ordering Procedures: See the Branch Office Manual, DP Sales Activity section.

Note: Systems Generation -- Distribution of the RAX program will be on tape. RAX users must have access to tape configuration on which to punch the object and source program decks.

Additional Program Support Material: Application Description Manual (H20-0545-1) ... System Manual (Y20-0101-2).

Reference Material: IBM System/360 Basic FORTRAN IV Language (C28-6629)... BPS Basic Assembler Language (C28-6503) describes the languages implemented under RAX ... IBM System/360 BPS Specifications Direct Access Storage Device - Utility Programs (C24-3363) and IBM System/360 BPS Operating Guide - Utility Programs Direct Access Storage Device (C24-3392) describe utility programs which can be used to maintain backup copies of RAX user library disk packs.

For further information contact your Regional Scientific Marketing Manager.

**OS/360 MULTIPLE CONSOLE SUPPORT
AVAILABLE OCTOBER 31, 1969**

OS/360 Multiple Console Support (MCS) is announced for MFT, MVT, and M65 Multiprocessing.

The growth potential of OS/360 multiprogramming and multiprocessing systems has been increased with the support of multiple consoles on communication lines and the addition of new types of consoles. OS/360 console configurations are no longer limited by cable restrictions making it possible to have a S/360 installation on multiple floors or even in multiple buildings.

MCS will enhance the productivity of OS/360 installations by providing:

Increased Throughput

Realized by the location of additional consoles adjacent to the functional area.

Better System Control

Achieved by a message routing feature that controls the flow of messages and the method of display.

Higher Availability

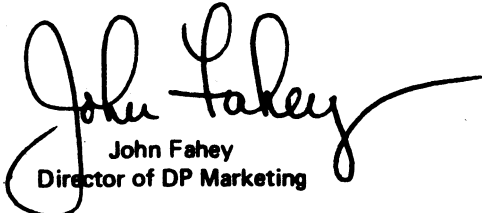
By additional alternate consoles and console switching capability.

Increased Installation Planning Flexibility

By the support of multiple consoles on communication lines in addition to cables ... by providing control program user exits.

MCS supports the 2740 Communication Terminal Model 1 when attached to a 2701 Data Adapter Unit or a 2702 Transmission Control and the System/360 Model 85 Operator's Console in addition to the currently supported console devices. A maximum of 32 operator consoles are supported.

More of this announcement is covered on the inside pages.



John Fahey
Director of DP Marketing

Note to World Trade Readers

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- [4] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
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Release Date: February 27, 1969
Distribution: All Areas

Advantages

Increased throughput is realized by the location of additional consoles adjacent to the functional area where specific action messages are needed. Only those messages pertinent to the operator's activity at the location are transmitted. Pools of similar devices can be established at remote locations in proximity to the business activity served. The additional consoles and devices can be on different floors or in different buildings.

Better system control is achieved by a message routing feature that controls the flow of messages and the method of display for each one. The ability to have a master console with multiple secondary and alternate consoles of the same or different device types provides new flexibility in control. The dynamic reassignment of all consoles can be made by operator commands to match changing work-load patterns.

Higher system availability is made possible by providing more alternate consoles and a console switching capability. Each console can have a designated alternate to dynamically assume its functions in some cases of failure. Additional cases can be handled by operator commands. Devices that are normally used for I/O to an application can now serve as an alternate console. Secondary consoles can be switched to assume the role of the master console. The reduction of message loads at each console further contributes to overall systems availability.

Increased installation planning flexibility is provided by the extension of the supported consoles and the ability to use communication lines, in addition to cables. The installation can better match changing physical requirements as new applications and equipment are added. The system programmer can now write routines that can intercept and re-route or change the display characteristics of messages by use of the user exit.



IBM 2740 Communications Terminal

Features

Multiple Console Support enables systems to be configured with a master or primary console and multiple secondary consoles with each console dedicated to one or more system functions. The user can tailor his system requirements by selecting message routing codes that each console is to receive. Using routing codes, both the system and problem programs can indicate which functional areas are to receive a message. More than one routing code can be assigned to each message.

A descriptor code has been added to determine how a message is to be printed or displayed and how a message is to be deleted from a graphic device. A macro has been added to inform a graphic device when a message is no longer needed.

OS/360 messages are reviewed as a part of this support and routing and descriptor codes added. The COBOL E and Sort/Merge messages are scheduled for release by June 30, 1970. COBOL F messages will not be changed due to the availability of USA Standard COBOL announced by P68-145. Default routing and descriptor codes are provided for all unchanged messages.

Routing codes indicate the functional area to which a message is to be sent. Some of the areas are:

- Master Console (Operator action required)
- Master Console Information
- Tape Pool
- Direct Access Pool
- Tape Library
- Disk Library
- Unit Record Pool
- Teleprocessing Control
- System Security
- System Maintenance
- User Console (Reserved for customer use)

Descriptor codes provide device support processors with the nature of the message text so that appropriate deletion action can be taken on the message. Device support processors may handle a descriptor code differently, depending on the unique requirements of the support they provide for the device. Functions associated with descriptor codes are:

- System Failure
- Immediate Operator Action Required
- Eventual Operator Action Required
- System Status
- Immediate Command Response
- Job Status
- Problem Program
- Reserved

MCS provides for alternate consoles and a hard copy log. Each console can have an alternate which assumes the primary functions if it fails.

Features (cont'd)

System and problem program messages with operator responses may be recorded on the hard copy log.

The hard copy log is required when there is more than one active console in the console configuration, or if a graphic console is in the console configuration. The hard copy log can be either on a console with a printing device, or can be written in the system log data set.

Routing codes and descriptor codes have been added as parameters to the WTO and WTOR macro instructions. A SYSGEN option permits the assignment of one or more routing codes as a default.

A resident, user-written exit routine may be included in the Communication Task to examine but not modify the message text and to modify routing and descriptor codes before transmitting.

Switching to an alternate console can be done automatically when the control program detects that the original console is inoperative. In addition, master console switching can be performed manually by depressing the External Interrupt Key.

Both switching and reconfiguration can be performed through the VARY operator command. The VARY command can place a device in an ONLINE, OFFLINE or CONSOLE status.

The operator can obtain an immediate display of the console configuration by using the DISPLAY CONSOLES command.

Minimum System Requirements

A System/360 Model 40G (with 128K bytes), OS/360 minimum requirements and a master console and one alternate.

Devices Supported

1052 Printer-Keyboard Model 7 with a 2150 with a maximum of thirty-two.

1052 Printer-Keyboard Model 7 with a 1052 Adapter with a maximum of one on Models 40 and 50. A maximum of two on Models 65 and 75 with the Dual Console feature.

Currently supported composite consoles with a maximum of 32 logical pairs.

1403 and 1443 as output units of currently supported composite consoles with a maximum of thirty.

2250 Display Unit using MVT and M65 Multi-processing support with a maximum of one.

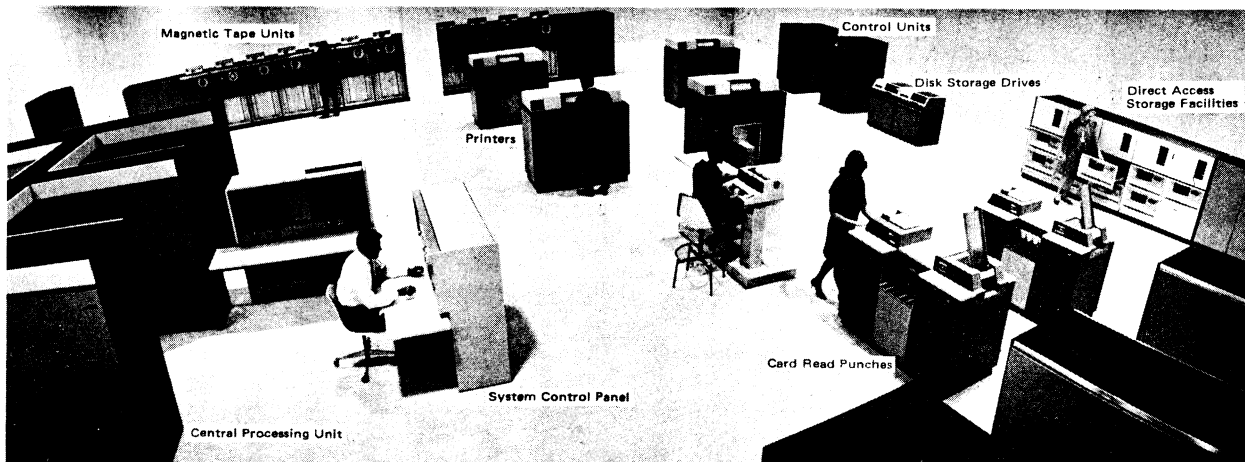
Model 85 Operator's Console feature #5450 with a maximum of one.

2740 Communications Terminal Model 1 with Record Checking feature #6114 attached to a 2701 Data Adapter Unit or a 2702 Transmission Control Unit. Four consoles may be attached to a 2701. Thirty-one consoles may be attached to a 2702 with a line expansion feature. One 2740 is supported for each non-switchable communications line used with a maximum of thirty-two consoles per system. M65 Multi-processing does not support the 2701.

Sample Storage Estimate

Basic Multiple Console Support	2.0K
2740 Console support without BTAM present in the system	5.2
one additional 2740 console at 0.3K bytes each	0.3
Two 2740 Consoles at 0.3K each	0.6
One 1052 Console at 0.3K	<u>0.3</u>
Storage Increase	8.4K

Detailed requirements are on the next page.



IBM System/360 Model 85 Configuration with System Control Panel

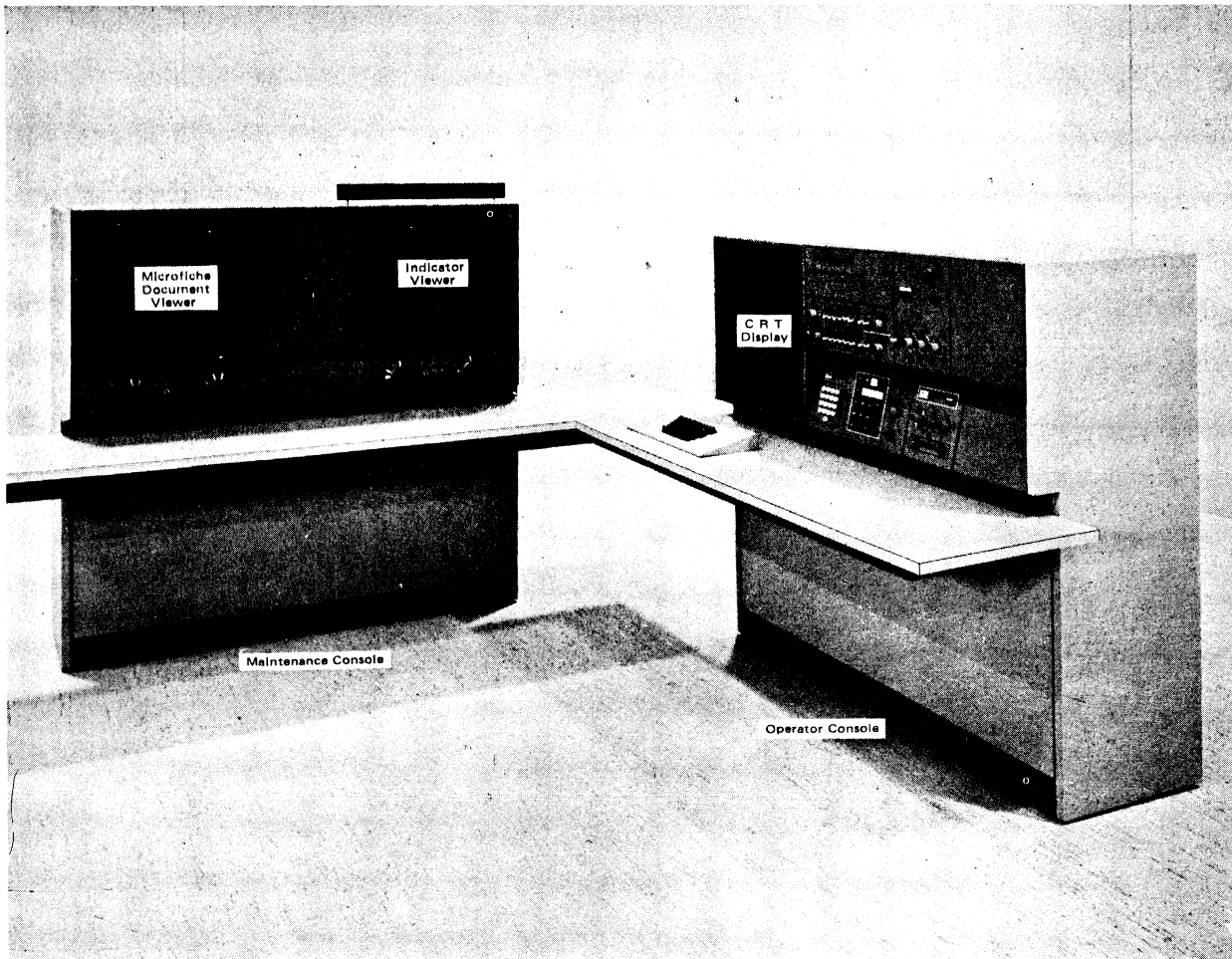
Core Storage Planning Information

<u>Feature or Option</u>	<u>Byte Increase</u>
Basic Multiple Console Support resident module	2.0K
Hardcopy Log on System Log for MFT (No change for MVT) BSAM must be resident	3.0K
Hardcopy Log on a Console User exit routines will take additional core	None
M85 Operator Console Feature 5450	4.0K
2740 Console without BTAM present in the system plus 0.3K bytes for each additional 2740	5.2K
2740 Console with BTAM present in the system plus 0.3K bytes for each additional 2740	1.8K
Each console	0.3K

Reference Publications

Further information about MCS will be included in S/360 Operating System publications when MCS is released by October 31, 1969.

Available information on the Model 85 Operator Console and MCS is included in the Introduction to Model 85 Programming Support, C27-6943.



IBM System/360 Model 85 System Control Panel with Operator Console Feature

**CONVERSATIONAL REMOTE JOB ENTRY (CRJE)
A MAJOR NEW FACILITY TO BE
AVAILABLE IN OS/360**

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Conversational Remote Job Entry is the breakthrough into conversational programming your customers have been looking forward to with great expectation.

This new capability will enable you to plan to have your OS/360 users on-line for remote conversational preparation of programs, remote file management, and remote job entry. All this while his normal background processing runs like it always did.

For your prospects, you can now offer new capability which makes OS/360 more powerful, more flexible, more usable than ever.

Conversational Remote Job Entry (CRJE) extends the power and flexibility of OS/360 MFT and MVT to many users at remote locations via low cost IBM 1050, 2740 and 2741 printer-keyboard terminals.

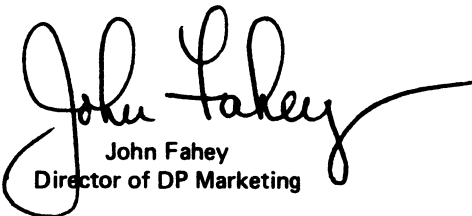
CRJE makes the full resources of OS/360 conveniently available to remote users.

Availability will be June 30, 1970. See the reverse side for highlights, planning information, available publication, minimum system configurations and devices supported.

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: February 27, 1969
Distribution: All Areas


John Fahey
Director of DP Marketing

Highlights

- *Each user is allocated disk space for program and data storage. By using the terminal command language, he can create, insert, replace, and delete lines in his files.*
- *The remote terminal user can submit jobs in any OS/360 language for background processing by merely specifying those data sets that comprise the job.*
- *Keying of each line of input from the terminal and/or using the program and data storage capability in CRJE provide much faster turnaround than traditional key-punching methods.*
- *FORTRAN and PL/I statements can be checked for intra-statement syntax errors and corrected immediately by changing only the line or lines in error.*
- *The status of remotely submitted jobs is available both at the central console and at the remote terminals.*
- *Terminal users may communicate with each other and with the central operator via a message transmission facility.*
- *LOGON and LOGOFF facilities uniquely identify each user and provide terminal/user independence.*
- *Protection is provided against unauthorized use of the system and access to job output data and user library files.*
- *Job output can be routed to system output devices at the central computer, or be selectively listed by the submitter at any remote terminal.*
- *Commands are provided for the operator at the computer console to provide external control and flexibility of the CRJE system.*
- *Uses OS/360 BTAM providing full error recovery procedures. BTAM On-Line Test facilities are also available.*
- *CRJE and high speed RJE may coexist on the same system, each providing a separate but complementary function.*

Planning -- Start now ... order the new publication, 'Planning for Conversational Remote Job Entry' (C30-2010), and when you get it, sit down with your customer and get his commitment to move up to CRJE next year. And be sure to get his order for the terminals, transmission control units and whatever else he needs to go "conversational."

Minimum System Configuration -- System/360 Model 50, 65, 67 (65 mode), 75, 85, or 91, with at least 384K bytes of main storage for operation with MVT. For operation with MFT Model 40, 50, 65, 67 (65 mode), 75, or 85 with at least 256K bytes of main storage. Direct Access Storage Space for CRJE tables, system

libraries, and work areas must be provided on a 2311 Disk Storage Drive or a 2314 Direct Access Storage Facility. Normally only a portion of a 2311 Disk Storage Drive capacity is required. Exact requirements depend on the number of communication lines, average size of the data sets being updated, number of users active at one time, and number of CRJE submitted jobs present at any one time. Additional DASD space is required for user library storage, the exact requirement for which must be established by the installation.

Note: If BTAM On-Line Test Facilities are omitted from CRJE, full system resources must be made available to the customer engineer for terminal maintenance when required.

Terminals Supported -- CRJE supports the following remote terminals on either switched or non-switched point-to-point lines. All features are mandatory unless otherwise noted.

1050 Data Communication System with: 1051 Control Unit (Model 1 or 2) ... 1052 Printer-Keyboard ... PTTC/EBCD Print element ... 9698 Text time-out suppression ... 1313 Automatic EOB (optional).

2740 Communications Terminal (Model 1): 6114 Record Checking ... PTTC/EBCD or Correspondence print element ... 1313 Automatic EOB (optional).

2741 Communications Terminal with: PTTC/EBCD, PTTC/BCD (standard), or Correspondence print element ... 4708 Interrupt (optional).

Note: All terminals that use the same switched line must be of the same type, have the same print element, and, for 2741 terminals, either all must have the Interrupt feature or none may have the Interrupt feature. Non-switched lines may not be shared by more than one terminal; therefore, the above considerations do not apply.

Transmission Control Units Supported -- CRJE supports one or more of the following transmission control units up to usual System/360 maximums.

2701 Data Adapter Unit with an IBM Terminal Adapter Type I.

Note: A 2741 Communications Terminal with the Interrupt feature cannot be connected to a 2701 Data Adapter Unit.

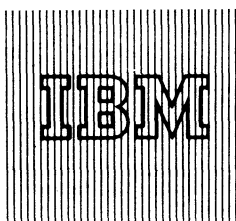
2702 Transmission Control with an IBM Terminal Control Type I.

Note: The 2741 Break feature (8055) is required to operate a 2741 Communications Terminal with the Interrupt feature.

2703 Transmission Control with an IBM Terminal Control Type I.

Note: The 2741 Break feature (8055) is required to operate a 2741 Communications Terminal with the Interrupt feature.

Note: The 2701, 2702, or 2703 may be connected only to a multiplexer channel.



RELEASE 1 OF THE PROPERTY AND LIABILITY INFORMATION SYSTEM (PALIS) - A TYPE II PROGRAM

You can now order the Property and Liability Information System (PALIS). Shipments will begin the week ending March 14, 1969. The program numbers comprising the System are:

Basic	360A-IF-10X
Automobile	360A-IF-11X
Other Lines	360A-IF-13X

PALIS is designed to provide data processing requirements for property and liability insurance companies in the following areas:

1. Input preparation for the daily cycle (balance, sort and edit).
2. Daily processing of both internal and external activity against a policy master file.

The functions performed are:

For private passenger automobile--rate and write new business ... renewals ... endorsements, both premium and non-premium ... cancellations ... reinstatements ... claims arisings ... claims payments and closings.

For other lines--maintain a complete insurance record for single risk policies by processing the following ... endorsements both premium and non-premium ... cancellations ... reinstatements ... claims arisings ... claims payments and closings.

For Automobile and Other Lines--billing and premium collections for direct-billed business ... provide risk experience ... statistical contributions generated by the system will be prepared ... status inquiry via local 2260 Display terminal.

The PALIS Basic Program (360A-IF-10X) is required for the execution of the PALIS Automobile Program (360A-IF-11X) and/or the PALIS Other Lines Program (360A-IF-13X).

The size and scope of the PALIS programs dictate a thorough and effective installation plan. To assist the field in establishing such plans and to provide expanded educational facility a unique support program has been established. Branch Manager Letter 479 describes this program in detail.

Published by DP Sales Publishing Services, WTHQ

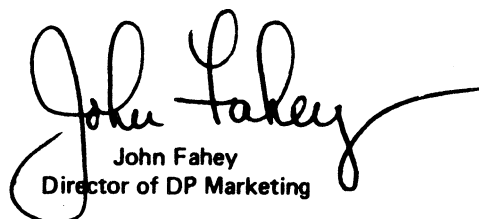
FOR IBM INTERNAL USE ONLY

Release Date: February 28, 1969
Distribution: All Areas

The following additional features to PALIS will be available as currently scheduled, September 30, 1969.

- . Homeowners*, including the recent MLIRB change
- . Master Record Reconstruction
- . Texas Auto
- . Remote Inquiry*
- . Other Lines Multi-Location Risks*

See the sales manual text on the reverse side for detailed information. For further information, contact your Insurance Industry Marketing Representative.



John Fahey
Director of DP Marketing

Note to World Trade Readers

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*Requires 128K System

Property and Liability Information System for System/360: Consists of programs which maintain an Automobile and Other

Lines policy master file. It provides the capability for direct access inquiry to these records.

Description: The system, consisting of three programs, will perform the following functions:

The Automobile Program - rate and write new business ... renewals ... endorsements, both premium and non-premium ... cancellations ... (reinstatements) ... claims arising ... claims payments and closing.

The Other Lines Program - maintain a complete insurance record by processing the following: endorsements both premium and non-premium ... cancellations ... claims arising ... claims payments and closing.

PALIS Basic Program - provides billing and premium collection for direct billed business ... statistical contribution to bureau reports ... a program to build and update user tables for automobile rates ... a program to edit all transactions for format and range of values ... utility programs to aid the installation and modification of PALIS ... programs to load, reorganize, reconstruct and restart the policy file on the 2321 Data Cell ... status inquiry into policy file via local 2260 Display Terminals ... a run linkage program to interface between DOS/360 and PALIS insurance logic.

The following elements apply to the above PALIS programs:

Features: The system takes advantage of the powerful features of IBM System/360 ... the system functions in a Disk Operating System environment ... the flexibility of the system design allows for user defined configurations when processing loads exceed the capacity of the minimum configuration ... both the insurance logic and run linkages provide the flexibility required to make the system adaptable to most companies ... the policy master file is housed in the 2321 Data Cell Drive.

Use: PALIS is designed to be the foundation of a P & L information system. As such, it creates and maintains a detailed policy enforce file. In addition, an Automobile Private Passenger policy rating and writing facility is provided. Premium, loss, and historical data is maintained by policy.

The customer must provide a program to interface user data capture and data coding procedures with the system edit. Output programs must be written to format and in some cases further process the contents of the generalized output records. A daily file maintenance run is contemplated.

During implementation and conversion, interface programs between PALIS output and user accounting and statistical systems must be provided.

Customer Responsibilities: A thorough knowledge and understanding of the system before installation ... write conversion programs to create the master file ... write programming to format output for printing, punching and entry into other systems ... write all routines to satisfy special company policies such as underwriting criteria, loss reserving standards, accounting procedures, etc. ... write any programming required to effect user changes to record format; e.g., expand contract routines, additional programming to handle new fields, etc., generate and maintain tables for private passenger automobile according to the specifications provided; write programs and procedures to provide input transactions to PALIS ... maintain the programs and documentation as changes to bureau requirements dictate changes in logic ... provide additional logic to format replies to inquiries beyond that supplied by PALIS.

Special Sales Information: The Property and Liability Information System substantially reduces the customer programming effort and provides the basis for uniformity and systems design throughout the industry ... the meaningful insurance-oriented documentation provided by System/360 COBOL greatly aids in the full understanding of the package ... the modular concept used to develop this system provides the means for the user to expand into a total management information system for all lines of business ... the Property and Liability Information System takes advantage of the advanced capabilities of the Disk Operating System/360.

Programming Systems: The insurance logic program modules can be easily understood by the insurance personnel of your company as well as the programming staff since they are written in Disk Operating System/360 COBOL. The use of System/360 COBOL allows for ease of modifications to the various programs and simplifies program maintenance. Run linkage routines have been written to form an interface between the insurance logic and Disk Operating System/360. Just as the insurance logic program modules are written in a modular fashion, the run linkage is also written in a modular fashion to allow for a wider range of system configurations. The run linkage is written in assembler language.

PALIS uses the following components of the Disk Operating System and the user must become familiar with them -- System Control and Basic IOCS ... Consecutive Tape IOCS ... Direct Access Method ... Group I, II and III Utilities ... Tape Sort/Merge ... Assembler Language ... COBOL ... DOS Supervisor (6K) ... and RPG.

In addition, PALIS uses IBM System/360 Flow Chart (360A-SE-22X) for printing of PALIS Flowcharts.

PALIS operates under DOS/360, but does not restrict the users' use of DOS/360.

Minimum System Requirements: System/360 Model F30 with Decimal Arithmetic, Selector Channel, and I051 Attachment ... a I051 Control Unit, Model N1, with CPU Attachment, Systems Console Attachment, First Punch, First Reader and First Printer Attachments controlling a I052 Printer-Keyboard, Model 8 ... a 2841 Storage Control with 2321 Attachment Feature ... a 2321 Data Cell Drive, Model 1 and a 2311 Disk Storage Drive, Model 1 ... four 2400 series Magnetic Tape Units (at least three of the Magnetic Tape Units must be nine track) ... the required Tape Control Unit(s) ... a 2821 Control Unit with a I403 Printer, Model 2 and a 2540 Card Read Punch, Model 1.*

Optional System Requirements for Local Inquiry: A 2848 Display Control, Model 2 with one 2260 Model 2 Display Station with Display Adapter, Line Addressing, Non-destructive Cursor, and Non-destructive Cursor Adapter.**

*Alternate input/output units supported by DOS/360 may be substituted to satisfy individual company requirements. For the minimum configuration, consideration must be given to volumes of input and output ... off-line system availability ... requirements of programming systems for other user applications.

**In the Minimum configuration, local inquiry can only operate independently of other PALIS runs.

Basic Program Material for PALIS Basic Program (360A-IF-10X):

*Publications - Application Directory ... Basic Program Description and Systems Manual (H20-0497) ... Basic Operations Manual (H20-0498).

**Machine Readable - Source code, flowcharts, formats and sample problem are available on one 2400' magnetic tape either 9-track (800 or 1600 bpi) or 7-track (800 cpi - Data Conversion feature required).

Basic Program Material for PALIS Automobile (360A-IF-11X):

*Publications - Application Directory ... PALIS Automobile Premium Processing Program Description and Systems Manual (H20-0499) ... PALIS Automobile Claims Processing Program Description and Systems Manual (H20-0500).

**Machine Readable - Source code, flowcharts and formats are available on one 2400' magnetic tape either 9-track (800 or 1600 bpi) or 7-track (800 cpi - Data Conversion feature required).

Basic Program Material for PALIS Other Lines (360A-IF-13X):

*Publications - Application Directory ... PALIS Other Lines Premium Processing Program Description and Systems Manual (H20-0503) ... PALIS Other Lines Claims Processing Program Description and Systems Manual (H20-0504).

**Machine Readable - Source code, flowcharts and formats are available on one 2400' magnetic tape either 9-track (800 or 1600 bpi) or 7-track (800 cpi - Data Conversion feature required).

*If only the form numbered publications are required, order from Mechanicsburg -- not PID.

**If track and density requirements are not indicated on the back of the program order card, 9-track at 800 bpi will be sent.

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

Ordering Procedure: See Branch Office Manual, DP Sales Activity section.

Additional Program Support Material: Application Description Manual (H20-0283-1)

Further Information: An Authorized Programming Analysis Report (APAR) should be addressed to Insurance Development Department, IBM Corporation, 615 Madison Avenue, New York, New York 10022. Part 3 of the APAR should be addressed to APAR Processing, IBM Application Program Standards Department, 112 East Post Road, White Plains, New York 10601.

For additional information contact your Insurance Industry Marketing Representative.

VERSION 5 EXPANDS PL/I (F) FOR OS/360

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PL/I (F) Version 5, to be available by March 16, 1970, will provide your customers with greater advantages and increased capabilities through:

Performance Improvements

The estimated object performance of a set of scientifically oriented sample programs indicate an overall improvement of 2 times Version 4. In the test cases, the estimated increase in compile time did not exceed 22%.

Functional Additions

*Teleprocessing Support
New Data Handling Capability
New Language for Block Optimization*

Storage Savings

*Shared Object Time Library
Support of Half Word Binary*

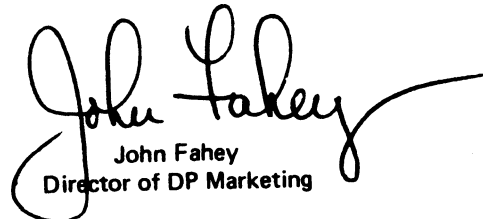
Improved Usability

*Improved Mathematical Built-in Functions
Track Overflow Feature Support
STAE Feature Utilization
Improved Multitasking Control*

Planning Considerations -- The functional and performance improvements should be evaluated to determine the effect on customer PL/I programs. The numerous improvements to the OS/360 PL/I compiler have introduced a number of incompatibilities that may require either source program changes and/or recompilation.

For details of these highlights and other information see the inside pages.

Published by DP Sales Publishing Services, WTHQ


John Fahey
Director of DP Marketing

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Release Date: March 4, 1969
Distribution: All Areas

Performance Improvements

The performance improvements include new, optional optimization phases and the new language options ORDER/REORDER.

The new optimization phases are invoked when OPT=2 is specified. The estimated decrease in compile speed when OPT=2 for a selected set of scientifically oriented test programs did not exceed 22% when 88K bytes or above was available for compilation. Due to the iterative nature of the optimization phases, compile performance in a 44K bytes region is expected to be several times slower than at 88K bytes.

Areas of Improvement

Loop and Subscript Optimization

- . Loop Control
- . Loop Control Variables
- . Array Expression
- . Subscript Lists

In-Line Conversions

In-line code is generated for certain cases of conversion between the following data types:

PICTUREd numeric to FIXED BINARY
FIXED BINARY to PICTUREd numeric
FIXED DECIMAL to PICTUREd numeric
PICTUREd numeric to FIXED DECIMAL

Assignment Statement Improvements

Optimized code eliminating the use of temporary storage will be produced for certain cases of fixed decimal assignment, PROCEDURE CALLs or function reference, and simple character string expression and assignments.

Register Utilization

Internal improvements in the register allocation stage of the compiler can result in better object time utilization of registers.

PL/I Mathematical Built-in Functions

The PL/I mathematical functions have been recoded to use improved algorithms and to exploit the recent changes in the floating point on S/360.

Functional Additions

Teleprocessing Support - The RECORD I/O facilities in PL/I now include the concept of a TRANSIENT file. Language extensions and new options in the ENVIRONMENT option extend to the PL/I user most of the facilities of OS/360 QTAM message processing.

New Data Handling Capability - The new String Built-in Functions.

TRANSLATE Permits a programmer to perform a transformation of data from one character set representation to another, such as BCD to EBCDIC.

VERIFY Permits scanning of data to assure conformity to programmer established criteria such as data input editing and validity screening.

REFER Option Improvement - Allows the choice of continuing with full word binary or using half word binary for the controlling fields in self-defining structures.

Optimization Options - Two new block options are available which permit the compiler to optimize code within limits set by the source programmer.

ORDER This default option permits optimization while guaranteeing valid values of all variables accessed within computational ON-units.

REORDER This option permits the compiler to optimize more fully but without guaranteeing valid values of variables within computational ON-units.

Storage Savings

Half Word Binary - FIXED BINARY variables with precision less than 16 will be mapped as half words and will be accessed by half word instructions. The effect of this will be to reduce the storage requirements for the above variables by one half.

This feature also permits fuller data set interchange with COBOL (through use of the COBOL option in ENVIRONMENT) and with FORTRAN (by using the UNALIGNED attribute in conjunction with use of spanned record support). Note that this feature can cause incompatibilities in some cases. See Planning Considerations below.

Shared Library - Shared library built by means of a System Generation macro can be made resident at IPL-time in the LINKPACK area of MVT and be accessed concurrently from one or more regions.

Improved Usability

ENVIRONMENT Option - The following new options are provided:

TRKOFL specifies that the Track Overflow feature is to be used.
NCP (n) specifies the number of outstanding I/O statements with the EVENT option that can exist on a file at any one time.

Both of these facilities are also available in the DD card.

STAE Utilization - Use of the OS/360 STAE macro feature for intercepting OS ABEND situations.

Multitasking - Usability is improved by prevention of loss of control within the master control task of the PL/I program.

Requires Version 4 PL/I multitasking program object modules to be relinked with the Version 5 library.

Planning Considerations

Each installation should carefully review the incompatibilities to enable a suitable transition plan to be prepared.

This is the first announced independent component release as described in P68-170. Distribution of Version 5 as a component release will assist transition as both Version 4 and Version 5 will be usable on the same release. Version 5 will be usable on the OS/360 release then current. The SRL PL/I Version 5 Planning Guide, C33-0002, provides complete planning details.

Compatibility

Certain incompatibilities have occurred as a result of changes and improvements to the F compiler and library. These changes are detailed in the PL/I F Version 5 Planning Guide (C33-0002) and will subsequently be in the PL/F Programmer's Guide (C28-6594).

Compatibility Guidelines

1. Compiled code from any release of the compiler must always be executed using a library of the same or a later release.
2. Library modules of different releases can be mixed only in the following circumstances:
 - a. All linked library modules must be of the same release as each other.
 - b. All dynamically linked or loaded library modules must be of the same release as each other and must be of at least as late a release as the link edited library modules.

Planning Information

PL/I F Version 5 Planning Guide, (C33-0002) will provide information on new language and implementation features of PL/I F Version 5 and guidance on how to avoid incompatibilities with earlier versions. Highlights of possible incompatibilities are:

1. Programs linked with Version 1 or Version 2 libraries will need to relink their program object modules with the Version 5 library.
2. Programs using Version 4 multitasking will need to relink their program object modules with the Version 5 library.
3. Halfword Binary.

On Versions 1-4 all FIXED BINARY variables occupy four bytes. In Version 5 FIXED BINARY variables of precision less than sixteen will occupy two bytes.

This change will only impact users of FIXED BINARY variables with precision less than 16 in the following features:

EXTERNAL variables, arguments and parameters, DEFINEing on EXTERNAL FIXED BINARY

variables, BASED FIXED BINARY variables, RECORD I/O with records containing FIXED BINARY variables.

4. RETURNS Option

This option is now mandatory on a PROCEDURE, %PROCEDURE, or ENTRY statement of a function procedure when the function value attributes are explicitly specified.

Publications

IBM S/360 PL/I Reference Manual*
IBM OS/360 PL/I (F) Programmer's Guide*
IBM OS/360 PL/I Library Computational Subroutines*
IBM OS/360 PL/I (F) Compiler PLM*
IBM OS/360 PL/I Subroutine Library PLM*
IBM OS/360 PL/I F Version 5 Planning Guide, C33-0002

***Availability of TNs or complete revisions to be announced in a future Publication Release Letter.**

NOTE:

The execution of a program utilizing TRANSIENT files will require the presence in the users generated system of QTAM modules. The use of QTAM also requires the generation of a QTAM MCP (Message Control Program) to direct the incoming and outgoing messages to and from the disk queues. Simple QTAM MCP Macros are available to the user to aid in the generation process.

Users wishing to utilize the shared library feature require Option 4 (MVT). Note that PCP and MFT will still execute properly.

**OPERATING RESTRICTION REMOVED FROM
GENERALIZED INFORMATION SYSTEM
(BASIC) TYPE II****Note to World Trade Readers**

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GIS (Basic) has been changed to support:

- . MFT
- . 16 files (previously restricted to 3)

GIS (Basic) operates under OS/360, using either the Primary Control Program or Multi-programming with a Fixed number of Tasks. The former restriction of three files in a retrieval or file modification procedure has been removed enabling use of up to 16 files. This program will be available on June 30, 1969 as announced in P68-66.

GIS (Basic) provides a powerful technique for addressing specific data processing needs and the requirements of executive information systems. In response to spontaneous and changing requirements, GIS provides sets of generalized routines which enable data set creation, maintenance, and data retrieval. With this system, existing or new files are described once to GIS and thereafter symbolically referenced by the user in his procedure specifications.

GIS (Basic) will be particularly advantageous in application areas where frequent changes in program design, application logic, or report requirements would invalidate the efficiency ordinarily attainable with assembly-level coding.

In contrast to conventional practices, the GIS user describes his new or existing files in a procedure that does not involve detailed programming.

When the user applies GIS (Basic) techniques to write his file creation, maintenance, and retrieval procedures, they will be compiled by a GIS (Basic) program component after diagnostic testing to ensure their validity. Once compiled, the executable code may be applied to the user's data or stored in a GIS library for subsequent recall by a single symbolic name. With some limitations, user routines written in higher level languages (such as PL/I) may access GIS files.

The dynamic main storage allocation of 90,112 bytes for GIS (Basic) includes space for parameter tables to support the 16 file extension. The actual space required for any particular multi-file compilation is, however, a function of the complexity of the files involved.

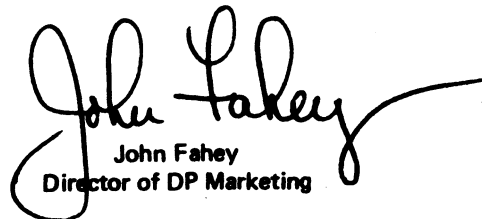
There is a Technical Newsletter (N20-1929) to the Application Description Manual (H20-0521) which describes these operational corrections.

For more information see the reverse side.

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John Fahey
Director of DP Marketing

Generalized Information System (Basic): GIS (Basic), in conjunction with OS/360, provides a powerful technique for addressing customer needs for specific data processing as well as the requirements of executive management information systems. In response to spontaneous and changing requirements, GIS (Basic) provides sets of generalized routines which enable data set creation, maintenance, and query. With this program, existing or new files are described only once for all procedures. Symbolic addresses (names) then serve to identify and locate both the appropriate file and the fields of data within it as needed by a GIS (Basic) procedure.

Description: Implementing a particular application ordinarily entails coding a multitude of routines. Once implemented, however, the system requirements usually prove unstable. Additional routines are needed to extend capabilities; revised coding is needed to produce reports not anticipated when the application was earlier defined. Accordingly, a dynamic operational environment imposes a significant continuing demand on programmers to maintain existing programs.

In contrast to conventional practices, the GIS (Basic) user describes his new or existing files in a procedure that does not involve detailed programming. This file description is a one-time task. As a result of processing by a GIS (Basic) program component, these file descriptions enable the user to address the contents of his files by means of symbolic names. No longer must the user repeat, in every procedure, the size of each field, its units, relative location, and other data management parameters.

When the system user employs GIS (Basic) techniques to create, maintain, and query his files, his procedures will be compiled by another GIS (Basic) program component after diagnostic testing to ensure their validity. The compiled, executable procedure code may then be applied to the file data or stored for later use and re-use when called from the GIS (Basic) library by the procedure's symbolic name.

As necessitated by the task being performed, GIS (Basic) procedures can link to OS/360 Assembler Language routines referenced in the procedure specification. User routines written in higher level languages, such as PL/I or COBOL, can gain access (with some limitations) to GIS (Basic) files.

A design provision enables a GIS (Basic) installation to invoke restrictions on the accessibility of sensitive data. Another provision enables recording the occurrence of processing errors and the selection of alternative actions in case of error.

In short, GIS (Basic) is a structured-file, information handling system designed for use in cross-industry applications. The system's design anticipates a dynamic operational environment.

Features:

- . Program-assisted definition of simple and complex data set structures. All data locations identified by user-assigned symbolic names.
- . Data base creation simplified by automatic field mapping and input/output control. Data insertion may be conditioned by logical tests. Audit trail available.
- . Multi-file retrieval -- up to 16 independent data files can be searched by a single query, and the resulting "hits" in each file can be used to sequentially condition the next file's search or consolidated into a single report or one or more output files.
- . Multiple outputs (reports) in response to user selection logic.
- . Algebraic computation, counts, and averages, as well as maximum - minimum detection.
- . Multi-field sort control for both data files and reports.
- . Automatically formatted and customized report capabilities.
- . Storage and recall of reusable task information which can be amended while in storage.
- . Field access control for retrieval and file maintenance.
- . Automatic logging (recording) of error conditions; specifiable and default selection of alternative processing options in case of error.

Either PCP or MFT operation

Special Sales Information: GIS (Basic) offers a technique to implement an information system having multiple System/360 data sets as its data base. Key by-products of GIS (Basic) are: a standardized approach for a portion of the customer's application requirements, thereby favoring the creation of more centralized data processing support groups ... a solution to the growing problem of providing a flexible file design approach.

Note: GIS (Basic) operating under MFT requires that a job class be assigned to the GIS (Basic) job, and a user-assigned transient reader operating in the partition defined for that job class. With a single job stream this user-assigned transient reader accepts GIS and non-GIS job classes. The non-GIS jobs are directed to partitions previously defined to accept jobs (by class). With two or more job streams, GIS jobs must be read by the user-assigned transient reader.

Use: As its initial input, the program accepts file descriptions reflecting an actual or proposed array of data. These descriptions become permanent reference tables in storage until replaced as the operational requirements dictate. The system user then writes a series of procedure specifications and enters them -- with or without transaction data -- to create and maintain his data files. Similarly, a set of procedure statements is entered to select, manipulate and retrieve data residing in the files.

Fields of data are addressed by their user-assigned names. Entire files also have symbolic names by which they are addressed.

Task information such as data or specifications can be saved in secondary storage and recalled as part or all of a procedural input specification.

Customer Responsibilities: All persons installing, operating, or maintaining GIS (Basic) must have a working knowledge of Operating System/360. No customer should attempt to implement GIS (Basic) until the installation has achieved proficiency in the use of OS/360 with other application programs.

A reasonably simple application should be implemented initially. The power of this system can be appreciated and employed only as experience is gained in the use of basic capabilities. Familiarity with GIS (Basic) will lead to significant reduction in the time required to implement a GIS (Basic) application and maintain a data base.

With GIS (Basic) as with other systems, considerable attention should be given to pre-installation system's design and analysis. The resulting choice of data organization and record design will affect processing speed as well as each file's value in the overall information system.

As with other systems, the customer is responsible for providing adequate protection against accidental loss or misuse of his data.

Programming Systems: GIS (Basic) programs are written in the OS/360 Assembler Language.

OS/360 options required and used by GIS (Basic) include PCP, MFT, BDAM, Utilities, Linkage Editor, Sort/Merge. Indexed Sequential is optional. For a further description of OS/360 requirements and options, see Application Description Manual (H20-0521).

Minimum Machine Configuration: GIS (Basic) operates on System/360 configurations ranging upward from a Model 2040G with the decimal arithmetic feature and direct-access secondary storage. The minimum machine configuration satisfies the GIS requirement for a dynamic main storage of 90,112 bytes.

In MFT a Model 2040GF (196,608 bytes) is recommended. This model allows, in addition to the MFT control program and system tasks, the 90,112 bytes of dynamic main storage required for GIS (Basic), and a partition for other installation work.

While the dynamic main storage allocation of 90,112 bytes does include space for all the necessary parameter tables to support 16 file operation, it does not necessarily guarantee successful compilation of a 16 file procedure. In addition to the parameter tables, sufficient core must be available to hold, concurrently, the key DDT information for each file. A reserved area of 15,000 bytes is available for this purpose. The actual space requirement for multi-file compilation is, however, highly dependent on file complexity, not on the numbers of files involved, including the number of unique field and segment names, the actual number of fields and segments and the quantity of edit, encode and decode specifications, field redefinitions and field security specifications. For this reason, it is not possible to set a fixed maximum (other than the system limit of 16) on the number of files which can be used in one procedure. A utility is provided with the system to calculate the precise core requirements for compilation for any specific combination of files described to GIS.

In addition to OS/360 secondary storage requirements, a minimum of three IBM 2311s or their equivalent is recommended.

Minimum essential I/O devices for GIS (Basic) system generation, maintenance, and operation include a system input unit, one 2400 tape unit, and a system output unit.

Program Support Material: Application Description Manual (H20-0521).

For further information contact your Regional Scientific Marketing Manager.

**ADDITIONAL INFORMATION ON THE
CUSTOMER INFORMATION CONTROL SYSTEM**
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.

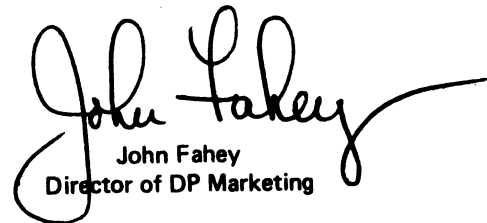
- [1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.
- [2] Advance copies of the form numbered publications mentioned in the 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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

The Customer Information Control System, which will be available June 30, 1969, is being reannounced to:

- State Additional Capability - an additional Control Module to provide a scratch pad service is provided ... service programs to facilitate the control of terminal operation will be provided as a part of the system.
- Clarify Terminal Device Support - the Minimum Machine Configuration of the sales manual entry should be reviewed for details.
- State the availability of a revised Application Description Manual which contains additional program information.

The Customer Information Control System had been announced in P68-66 as the Public Utility Customer Control System. Although the system was initially designed for the electric, gas, and telephone information systems, it should be noted that it has potential use in other high throughput teleprocessing oriented systems.

The sales manual text is on the reverse side.



John Fahey
Director of DP Marketing

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FOR IBM INTERNAL USE ONLY

Release Date: March 5, 1969
Distribution: All Areas

Customer Information Control System: This program is modularly constructed to provide the basic control system structure for user written processing programs in the installation of inquiry and order entry applications. This program was initially designed for use in electric, gas, and telephone companies' information systems; but it is of potential use in other high throughput Teleprocessing oriented systems. It has the capability for limited message switching and administrative message handling, and functions as an interface between user written processing programs and the IBM System/360 Operating System (OS/360).

The Customer Information Control System provides the following functions:

- A. **Task Management** provides the facility for concurrent transaction processing with priority scheduling. The user has control of the maximum number of tasks to be processed concurrently.
- B. **Terminal Management** provides user controlled terminal activity scheduling which includes terminal polling, reading and writing and the initiation of tasks when required. Sequential devices such as tape, DASD, and card readers - line printers may be substituted as terminals for testing user written application programs. The Communication Serviceability features of BTAM are used by the control system.
- C. **File Management** aids the user in the storage and retrieval of on-line Direct Access and Index Sequential data sets. Record segments may be retrieved by the user. The user may indirectly access his main file through a cross index file.
- D. **Program Management** provides inter-program communication and transaction initialization. User written programs are loaded or released as requested. The termination of transaction processing is provided by the control system.
- E. **Storage Management** either completes or queues core storage requests until storage is available. Requested core storage is optionally initialized to meet user requirements.
- F. **Transient Data Management** provides for the queueing of messages to be switched or for internal processing and the writing of output logs and sequential files.
- G. **Temporary Storage Management** provides the facility for a task to retain temporarily data either in core or upon direct access storage devices.

The control system contains service programs which provide the terminal operators with sign-on/sign-off, terminal status change, and system close facilities.

Advantages: The Customer Information Control System provides services that are necessary in an on-line information system environment. These services will reduce the programming effort during implementation and provide a program structure to which the user can attach his programs. Each individual module of the control system contains integral functions that must be implemented in an information system. The control system allows the user to direct his resources to the transaction modules in the application area. For example, although it is the responsibility of the user to know the access method which supports his terminals (either BTAM or Graphic), the Terminal Control module performs terminal functions within the system making it unnecessary for the user to develop and debug these functions.

New transactions and programs can be added through symbolic description cards and tested independently from the terminal network, although not storage protected. For testing purposes, terminals can be simulated through the use of card readers and printers.

Programming Systems: The Customer Information Control System is written in OS/360 assembler language and operates under the control of OS/360. It requires the following OS/360 control program options: Multiple Wait ... Interval Timing ... Resident SPIE ... SERI ... Graphic Access Method Support (if 2260 Display Station is attached locally) ... Input/Output support for applicable access methods such as Index Sequential Access Method, Basic Direct Access Method, Basic Telecommunications Access Method with the Communication Serviceability features.

The Customer Information Control System may be used with the OS/360 Primary Control Program if the only terminals on the system are the locally attached 2260 Display Stations. One of the OS/360 configurations, Multiprogramming with a Fixed number of Tasks (MFT) or Multiprogramming with a Variable number of Tasks (MVT) must be used in support of any system that includes other terminals. The selection of MFT or MVT is the user's responsibility. The control system operates within one partition of MFT or as one task within one region of MVT.

User written programs are to directly communicate with the control system via a combination of its macro instructions and Assembly Language instructions.

In planning the successful implementation of an information system, a prerequisite is that the user understand the complexity of system's design and be prepared to develop solutions to problems inherent in such an undertaking.

Most Information Systems incorporate three major equipment elements. They are: 1) terminals through which inquiry and order data are passed, 2) communication facilities for the transmission of the data, and 3) a communication oriented central computer with large direct access storage and transmission capabilities. Quite often, external characteristics such as variable input rate of messages, multiple input message types, fast response to terminal inputs, and priority for message processing needs place additional requirements on the system.

In the past, the user has had to design and program a control system with these characteristics. The Customer Information Control System will virtually eliminate this requirement. Control system design is accomplished by selecting a group of modules during a system generation process, and control system programming is reduced to the writing of macro instructions.

The Customer Information Control System is a group of program modules selected by the user during a system generation procedure. Each of these modules is core resident during execution of the user's information system. Communication between the user and the control system is via user-written macro instructions that are expanded during program assembly. The control system macro definitions are linked together with the OS/360 macro library to produce the Customer Information Control System macro expansions.

The activity within the central processing system is triggered by the data from the terminal on the system. All user written processing program requests for additional

terminal and file read-writes and system services are processed by OS/360 through the Customer Information Control System.

The control system is designed to handle all system requests that the user processing programs will make. It uses the Supervisor and Data Management Services provided by OS/360. Basic access methods are used to retain control within one partition or region. The control system incorporates features which assist in the serviceability of components of the system to provide maximum system availability.

Each module of the control system (1) decodes the specific requests of the processing programs and other control system modules, (2) communicates requests for services to OS/360 through macro instructions, (3) retains the status of each request until the request is fulfilled, (4) performs some control type processing upon selected requests, and (5) maintains statistical information that can be used to evaluate system performance.

Minimum Machine Configuration: The configuration requirements for the Customer Information Control System are similar to those necessary to support the OS/360. The Direct Access Storage Devices to contain the application data sets and the terminal configurations necessary to support the new application are the only additional devices required.

The minimum machine configuration includes a 2040 (or larger) Processing Unit Model G for the PCP OS/360 configuration with only locally attached 2260 Display Stations, or Model H (or larger) for the MFT-MVT OS/360 configurations with all other terminals, Decimal Arithmetic, Storage Protection (desirable feature). Appropriate I/O units to satisfy the OS/360 requirements for system console, system input, system output, system residence, and system data sets ... and sufficient Direct Access Storage Devices, either 2311 Disk Storage Drives, 2321 Data Cell Drives, or 2314 Direct Access Storage Facilities (or all three) to satisfy customer information storage requirements. (The 2841 Storage Control must have the record overflow feature.) The Customer Information Control System will be distributed on magnetic tape only. A 2400 Series Tape Drive (9-track or 7-track with Data Conversion features) must be available for program distribution and maintenance.

The minimum system may have all terminals of a single type or combinations of: (Features which are not mentioned are not supported.)

2260 Display Station (local attachment or remote attachment on non-switched lines) with optionally: Alphameric Keyboard (#4766), Numeric Keyboard (#4767), through a 2848 Display Control Model 1, 2, or 3 with, optionally -- Line Addressing (#4787), Non-destructive Cursor (#5340) and Non-destructive Cursor Adapter (#5341), 1053 Adapter (#7927, 7928), and 1053 Printer Model 4 ... 2265 Display Station (on non-switched lines) with optionally: Alphameric Keyboard (#4766) through a 2845 Display Control with, optionally -- Destructive Cursor (#3301), Line Addressing (#4801, 4802), 1053 Adapter (#7927, 7928), and 1053 Printer Model 4 ... 1050 Data Communication System (on non-switched lines) with a 1051 Control Unit Model 1 or 2, and with a 1052 Printer Keyboard, and with, optionally, a 1056 Card Reader ... 2740 Communication Terminal Model 1 (on non-switched lines) with, optionally -- Record Checking (#6114), and Station Control (#7479) ... 2740 Communication Terminal Model 2 (on non-switched lines) with, optionally -- Record Checking (#6114) ... Common Carrier Teletypewriter Exchange (TWX) Stations (Model 33/35 Type 8-level codes at 110 bps on Common Carrier Switched 150 Baud networks).

The appropriate line adapters and telecommunication control units must be included in the configuration. The Auto Poll feature (#1319) on the 2702 Transmission Control or the standard autopoll feature on the 2703 is supported for the non-switched lines with the 1050 Data Communication System and the 2740 Communication Terminal with the Station Control feature.

The access methods of OS/360 are used by the Customer Information Control System in communication with devices on the system. Consequently, the control system only operates with devices supported by OS/360.

The minimum core storage requirements stated below for the Customer Information Control System exclude the following core storage areas: the fixed core storage requirements for the OS/360 configuration, the core storage for the necessary OS/360 Access Methods, the input/output areas, and user processing programs. The basic control system modules require 15,000 bytes of core storage. The tables and areas used with the system are variable and dependent upon the user's requirements. An example of a system supporting 50 hard copy terminals, three file data sets, 100 programs, 50 transaction types and 50 queues would require approximately 20,000 bytes for the tables and areas. See the Application Description Manual for further information.

Use: The user must select the options and features of the Customer Information Control System that perform the services applicable to his installation ... describe the equipment configuration, the file data sets, transaction types, and optional requirements for the use of the control system ... incorporate control system macros for the generation of linkages from user processing programs to it. These definitions are accomplished in the control system macro language that is expanded by the OS/360 assembler.

Customer Responsibilities: Before installing the Customer Information Control System, the customer must order and satisfactorily install all required communication equipment for the initial system ... have a thorough knowledge of the information system application ... train system analysts, programmers and operators in OS/360 ... have installed OS/360 successfully ... design and create master files ... train system analyst, programmers and operators in the Customer Information Control System ... design terminal formats ... develop a terminal-oriented application training program for terminal operators ... develop, write, and test the inquiry and order entry programs using the control system macro facilities ... develop procedures to assure adequate security for data in the system ... develop backup procedures for the information system application ... develop terminal conversion procedures and schedules.

Branch Office Responsibility: The branch office must insure that system availability meets the specific requirements of the customer. This includes the use of the statistical data generated by the serviceability features included in the control system. Field Engineering should review the particular customer installation involved. Also, the approval of the Regional Systems Assurance Manager is required for all systems on the "Designated List."

Program Support Material: Application Description Manual (H20-0318).

For further information contact the Public Utility Industry Marketing Representative located in the Midwestern Regional Office.

**NEW VERSION OF PROJECT MANAGEMENT SYSTEM/360 (TYPE II) TO BE AVAILABLE IN SEPTEMBER****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.

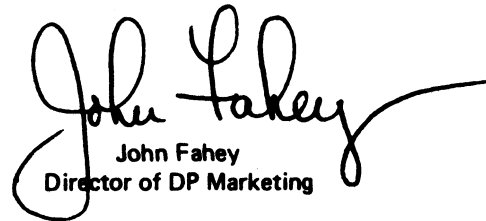
- [1] All programs announced as available have been shipped to the appropriate WT Program Libraries. Programs and associated material may be ordered as indicated on pages 9013 through 9017, Programming Section, WT DP Sales Manual.
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Version 3 of Project Management System/360 (PMS/360) extends the scope of PMS/360 by offering its users the facility of Resource Allocation.

Resource Allocation is achieved through a fourth processor called the Resource Allocation Processor. This processor is dependent on the other processors of PMS/360, the Network Processor, the Cost Processor and the Report Processor.

Version 3 of PMS/360 will be available September 30, 1969.

See the reverse side for detailed information.



John Fahey
Director of DP Marketing

Project Management System: This program, an integrated collection of computer program modules, has been developed to meet the challenging managerial requirements of today's complex research, engineering and fabrication programs. Projects of all types in construction, special products manufacture, large-scale R&D, etc., have been growing increasingly complex. Effective management requires up-to-date knowledge of job status and financial performance. Even more important, management needs to determine the probable schedule and cost impact of contemplated changes in plan. The System/360 PMS provides the scientific management tools needed for making better delivery promises, for spotting out-of-line conditions, for meeting schedules, for controlling costs. System/360 PMS will help your customers plan and control the use of their valuable resources: man, machines, money, and material.

Incorporated within this system is a comprehensive set of data processing programs that make available to the user some of the most advanced management techniques utilized both by government and industry. Initially the system provides critical path and general cost analyses, PERT and PERT COST capabilities, as well as Resource Allocation. A principal design objective provides a flexible add-on and substitution capability that allows for a growing library of management-oriented routines, and permits the user to tailor the program to the specific requirements of his installation. A variety of applications, some far removed from the aerospace and military development projects for which PERT was originally designed, is feasible. Some of these applications are --

In the Manufacturing and Distribution Industries -- network techniques have been used to schedule construction operations, the use of mining equipment, crude petroleum manufacturing, natural gas operations, construction repair and maintenance, pulp mill operations, paper and paperboard manufacturing, book preparation and printing, blast furnace maintenance, and meat packing operations.

In the Science Industries -- network techniques have been used to schedule aerospace research and development projects, test production of biological products, experimentation with drugs, university and college curricula and facilities usage, library operations, and farm planting.

In the Service Industries -- network techniques have been used to schedule freight forwarding operations, terminal and service facilities, power plant operations, bank clearing-house operations, dividend check distribution, insurance report preparation, judicial functions, and urban development.

In Government Accounts -- PERT and PERT/COST are used for internal management control as well as for contractor control. Additional uses include highway design and development, urban renewal, and transportation planning. Of course, these project management techniques are extensively used for controlling the design and implementation of data processing systems in virtually all industries.

Description and Features: PMS/360 is a battery of computer program modules that can be combined to form the data processing elements of various management system applications for cost and schedule planning and control. These modules support critical path analysis, project cost and progress control, and flexible report preparation. Brief descriptions of these application techniques and their salient features are --

PMS 360 - Network Processor -- This processor is the key program module for executing the Program Evaluation and Review Technique (PERT), and other critical path analyses. Developed in 1958 by the Navy Special Projects Office under Admiral William F. Raborn, Jr., PERT has evolved into a versatile management system. Its recommended implementation includes a work-sequencing operation that treats a project as a series of interrelated activities, some can be done in parallel, others must be done serially. A project's work when displayed in this fashion forms a network. The longest time path through this network determines the time required to complete the project. This path is called the critical path. All other paths through the networks have some slack with respect to this critical path. The job of project management then becomes one of scheduling both critical and non-critical work so that it takes the best advantage of available resources while making the critical path as short as feasible.

PMS/360 is an extremely versatile computer program for implementing PERT-type technique. Its features include variable size data fields...variable ordering of input elements on data cards ... flexible calendar capable of specifying holidays and vacation periods ... activities can be tagged for work on holidays ... optional use of master files ... networks may contain up to 254 subnets; subnet size ranges from 1,000 to 32,000 activities, depending on core memory, disk memory, the size of other data elements, operating systems, etc ... ability to process either the network or the subnet approach to PERT ... ability to accept activity time durations in hours, days, weeks, or months ... nine levels of milestone summarization ... two methods of milestone summarization ... one level of activity summarization that allows the summary activities to be specified explicitly ... a description of up to 99 characters for activities and milestone events that may be subdivided and operated upon in the PMS/360 - Report Processor ... output through the PMS/360 Report Processor can be formatted and tailored to individual needs ... user control of program logic through modular design ... programmed for easy modification.

PMS/360 - Cost Processor -- This program module is a collection of project-oriented manpower, material and cost planning and control subroutines. It can be used in conjunction with PERT, or in a completely separate "companion" application. When used with the other major modules of PMS/360 to implement the DOD/NASA PERT COST technique, it can produce the reports required for internal control and the total management cycle. Its features include an accounting calendar for variable cost period reporting ... rate tables for budgets, actuals, estimates, commitments, and obligations ... Charge Number rate tables for application of factors such as general and administrative expenses and special fees...Nine-level Work Breakdown Structure for product-oriented cost reporting ... Nine-level Organization Breakdown Structure for function-oriented cost reporting ... optional use of master file ... approximately 32,000 charge numbers and organization codes permitted at each level of both the Work Breakdown Structure and the Organization Breakdown Structure ... grouping factors for summary resource reporting ... variable card format ... variable field size for many data elements ... description field for use as a user option ...

user control of program logic through the modular design ... programmed for easy modification ... additional "customized" reports possible through the PMS/360 Report Processor.

PMS/360 Resource Allocation Processor -- This processor is a dependent module of PMS/360. It must take its input from the Network Processor and produce printed output by means of the Report Processor. The input from the Network Processor gives the earliest and latest dates on which each activity can start if the project is to be finished on time, together with the resources required for each activity and the resources available for the whole project. RAP schedules the actual start of every activity, so that all activities start as soon as possible, commensurate with efficient utilization of specified resource availabilities. By means of the Report Processor, the user can then output the scheduled start of any activity and the utilization of any resource at any time during the project. Its features include Fixed Time or Fixed Resource scheduling ... secondary levels ... compatibility with the other processors of PMS/360 ... serial-parallel allocation technique ... allocation for one or more subnets, which may or may not be in the same network ... wide variety of possible priority rules for choosing the most important of a set of activities competing for a resource ... alternative resources ... up to 25 resources per activity (or 18 if each has an alternative) ... activities may be split (stopped and restarted later) ... the time-now clock can be stepped up by any number of time-units, so that approximate schedules can be quickly obtained ... over 32,000 different resources allowed ... scheduling cut-off at any user-defined date ... cyclic or dated changes in resource levels ... "customized" reports possible through the PMS/360 Report Processor ... regular checkpoint facility.

PMS/360 - Report Processor -- The Report Processor is designed for use in output report preparation for the other PMS/360 modules, or as an independent module within the framework of PMS. Its features include a set of PERT reports (similar to those produced by IBM PERT COST II, 7090-CP-02X) ... selected DOD/NASA PERT COST reports ... Resource Allocation reports ... statements that allow a user to define his own reports without the aid of a programmer ... ability to read a wide range of input tapes other than those prepared by other PMS/360 modules ... programmed for easy modification ... arithmetic and logical procedures permit analysis of data to be reported ... selectivity of data for processing.

Customer Responsibility: The user must be familiar with the fundamentals of critical path, PERT, and PERT-COST techniques. Helpful references are given in the PMS/360 Application Description Manual (H20-0600). In addition, users must have access to personnel familiar with OS/360 job control language to install the system in their organization. Thorough reading of the PMS/360 Program Description and Operations Manual is also necessary before attempting implementation.

Programming Systems: The program is written in OS/360 Assembler Language, operates under the control of OS/360, uses QSAM and BDAM data access methods and the OS/360 Sort/Merge utility.

System Configuration: PMS/360 with the Resource Allocation Processor will require a minimum of 128K data bytes of core storage including the requirements of OS/360, and at least two 2311 Disk Storage Drives. The standard instruction set and the decimal feature instruction set are used. If the system's output device is a printer it must have 132 print positions. PMS/360, without the Resource Allocation Processor (a user's choice) will require a minimum of 44K data bytes over and above the requirements for OS/360. For larger networks, larger core sizes will result in greatly improved program performance.

I/O Device Requirements: Peripheral devices supported by PMS/360 include all devices supported by OS/360 where QSAM is an accepted access method. Please note that although PMS/360 is device independent the Management Summary Report supplied by PMS 360 reads a file named "ORDFILE" backwards. Hence, this file must be assigned to a 9-track tape.

The table below illustrates the core storage and peripheral storage byte requirements for a Network Processor and Report Processor run with one subnet for which a master file is created and detail reports are produced. Input is through a card reader and output is directly on a printer.

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

Essentially, this table is based on a peripheral storage byte requirement of 700 bytes per activity.

Program Support Material: Application Description Manual for Version 3 (H20-0600).

For further information contact your field systems center or Industry Marketing Representative.



VERSION 2 OF DAMPS (TYPE II) PROVIDES SIGNIFICANT EXTENSIONS IN MULTIPROGRAMMING

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.

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Version 2 of the System/360 Model 44 Data Acquisition Multiprogramming System (360A-CX-20X) is now available.

The new features include improved multiprogramming features for real-time applications and a full background processing capability. The Storage Protection special feature is supported, but not required. Real-time applications which would run under DAMPS Version 1 will run under Version 2.

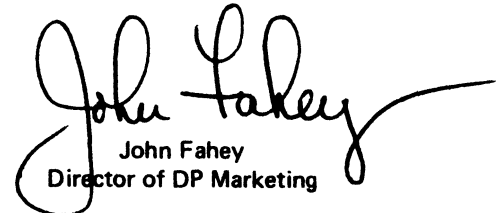
DAMPS Version 2 is an expansion of the S/360 Model 44 Programming System, providing two independent partitions. The foreground partition supports assignment of program tasks to various levels of the Priority Interrupt special feature. Foreground program tasks can also be dynamically scheduled for multiprogrammed execution during periods of low activity. An online interface has been provided through a real-time channel scheduler and support for the 1827 Data Control Unit. The background partition supports a standard S/360 Model 44 Programming System job stream at a low priority level. Customer-written application programs, in either FORTRAN or Assembler language, are prepared under DAMPS Version 2 in the background partition. Some examples of foreground applications are:

hybrid computing	data acquisition
instrument control	laboratory automation

Version 2 replaces Version 1. DAMPS Version 1 will no longer be maintained. All customers affected by this Version change should be notified promptly.

Current users will receive a prepunched program order card and a letter announcing availability of Version 2. They should use this card when ordering Version 2.

See the reverse side for detailed information. For additional information, contact your nearest DACS Center.


 John Fahey
 Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: March 14, 1969
Distribution: All Areas

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Description: DAMPS Version 2 supports two independent user partitions. Storage Protection Special Feature support is provided for the two user partitions and the partition containing the DAMPS Version 2 supervisor.

The foreground partition operates in conjunction with the Priority Interrupt Special Feature and the IBM 1827 Data Control Unit or other online interface. The partition is designed to interface directly with online, scientific applications such as:

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The foreground partition supports the assignment of program tasks to the various priority levels, to be scheduled as immediate response to external events. Foreground tasks may be dynamically scheduled for execution while there are no active priority interrupt levels. To sustain a higher throughput rate for real-time jobs, the foreground processing tasks can be multiprogrammed. The posture of the system, with respect to priority interrupts, can be altered with special subroutines provided. Foreground tasks use supervisor capabilities compatible with the System/360 Model 44 Programming System including FETCH and LOAD, while priority response routines are provided with special capabilities which support a broad range of processing at a priority level.

The background partition supports a standard System/360 Model 44 Programming System job stream. The background partition operates at a low priority, using only the processing time not required by the foreground application.

Features: Special routines can be associated with an immediate response to an external event through the Priority Interrupt special feature ... foreground processing can be easily scheduled during priority interrupt ... foreground processing can be multiprogrammed ... the user can easily adjust the programs used for responding to priority interrupts ... the capabilities associated with the System/360 Model 44 Programming System are available to the user for preparation and processing of real-time jobs ... a special real-time channel scheduler is provided for channels dedicated to the processing of real-time data ... IBM 1827 Data Control Unit and tape subroutines are provided for use with the real-time channel scheduler ... the user, at his own discretion, can save and restore as little of the status of the computer at interrupt time as he deems necessary ... all the dynamic overlay capability available in the Model 44 Programming System is available to the real-time job.

Special Sales Information: Version 2 substantially reduces the programming effort to implement real-time applications on the System/360 Model 44, by providing both the monitor framework for system operation and the operating system for system development. Because DAMPS is essentially an extension of the System/360 Model 44 Programming System, a high degree of compatibility is maintained with the latter.

Use: The two partitions of DAMPS Version 2 function independently. Each partition has its own Job Control Processor. Background job control statements are entered via the System/360 Model 44 Programming System standard system input device. Foreground job control statements are entered via the console typewriter. The foreground and background job control languages are compatible.

User written application programs, in either FORTRAN or Assembler Language, are prepared in the background partition under DAMPS Version 2. Both types of application programs can use all of the facilities of the System/360 Model 44 Programming System, while only foreground programs can use the real-time facilities. A foreground application program, after being placed in the phase library by the Linkage Editor, may be put into execution by the operator via the console typewriter. Additional phases of the foreground application may be fetched after execution has commenced using the standard System/360 Model 44 Programming System overlay facilities.

Customer Responsibilities: A thorough knowledge of the application ... a thorough knowledge of DAMPS Version 2 ... any user modification of DAMPS Version 2 ... installation, maintenance, and operation of all non-IBM equipment involved ... developing, testing, and operating application programs ... operation of the IBM hardware and systems ... programming any unsupported equipment.

Programming System: DAMPS Version 2 is an extension of the System/360 Model 44 Programming System. The extensions were programmed in the Assembler Language of System/360 Model 44 Programming System. Application programs can be developed using the FORTRAN and/or Assembly Language.

Minimum System Requirements: System/360 Model 2044G (128K), one Multiplexer Channel (#5243 or 4598), Priority Interrupt Feature (#5625), High Resolution Interval Timer (#4555), one System Input Device (1442 Model N1, 2501 Model B1 or B2, 2520 Model B1, 2540 Model 1, 2401 Model 1 through 6), one Output Listing Device (1403 Model 2, 3, 7, N1, 1443 Model N1 or any of the above-listed tape units), one Output Punching Device (1442 Model N2, 2520 Model B2 or B3, or any of the above-listed read punches, or any of the above-listed tape units), one Intermediate Storage Area (Second Single Disk Storage Drive (#6415), 2311 Disk Storage Drive, or two of the above-listed tape units).

Notes on Configuration:

1. Any configuration restrictions on the System/360 Model 44 Programming System processors are also restrictions on their use under DAMPS Version 2.

2. External interrupt is not supported. If the 1827 Comparator is wired for external interrupt, it must use the Priority Interrupt special feature.
3. Sharing channels between real-time and non-real-time devices will degrade the performance of the real-time channel scheduler.
4. Except for console typewriter, devices cannot be shared by both real-time and background jobs.

Basic Program Material:

Publications* -- Application Directory ... Program Description Manual (H20-0537-1) ... Operations Manual (H20-0538-1).

Machine Readable** -- The Object Program ready for operation is available in card form or on one 9-track DTR (800 or 1600 bpi) or 7-track (800 cpi, Data Conversion feature required) DTR.

Optional Program Material:

Machine Readable*** -- Source statements are available 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: See Branch Office Manual, DP Sales Activity section.

* If only the form numbered manuals are required, order from Mechanicsburg -- not from PID.

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These manuals describe the system which DAMPS is an extension of and compatible with.

For further information contact your nearest DACS Center.



IBM World Trade Data Processing

P6g.38

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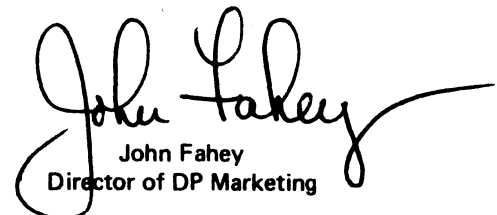
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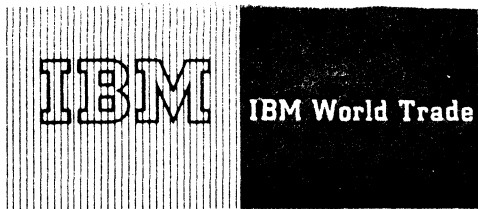
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P69-39

PROGRAM ANNOUNCEMENT

MODEL 65 MULTIPROCESSING UNDER MVT SUPPORT CLARIFIED

All future OS/360 announcements for components supported under MVT imply Model 65 Multiprocessing support as an integral part of that option unless specifically excluded. (Ref. P68-2). Currently, there are four such items which have been, and still are, excluded. The four items are:

- 1. Shared DASD
- 2. 2361 LCS
- 3. Time Slicing
- 4. 2250 Operator Console Support
(The 2250 is supported as a Model 65 Multiprocessor console under Multiple Console Support.)

All other OS/360 MVT functions either are available under Model 65 Multiprocessing or will be, according to previously announced schedules.

GRAPHIC RESTRICTIONS FOR MVT MODEL 65 MULTIPROCESSING REMOVED

The restrictions announced in P68-2 are lifted for MVT Model 65 Multiprocessing. The functions are identical to those announced for MFT II and MVT. This support will be available October 31, 1969. The restrictions are:

- 1. Graphic Programming Services
- 2. Graphic Programming Services for FORTRAN
- 3. Graphic Job Processor
- 4. FORTRAN Subroutines for Data Transmission between a S/360 Model 65 Multiprocessor and 1130
- 5. Job Control from an 1130 to 2250, using Satellite Graphic Job Processor (SGJP).

EXTENSION OF MVT MODEL 65 MULTIPROCESSING SUPPORT TO INCLUDE LIMITED ASYMMETRIC CONFIGURATIONS

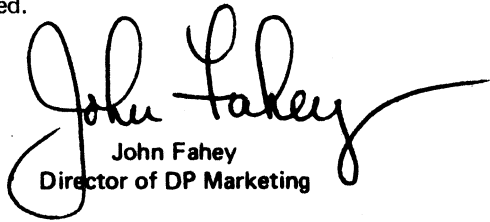
Limited asymmetric support (single path) for the display control units 2840 and 2848 and for the transmission control units 2701, 2702 and 2703 will be available on October 31, 1969, under MVT Model 65 Multiprocessing.

The 2840, 2848 and 2701 are single path control units. The 2702 and 2703 will be supported with or without the two-processor switch (feature 8100); however, when configured with the two processor switch, one path (at the 2702/3) can be manually disabled prior to IPL. The system may be IPLed from either CPU, regardless of the side/sides to which the 2840, 2848, 2701, 2702, or 2703 are logically attached.

SEE REVERSE SIDE FOR
"NOTE TO WORLD
TRADE READERS"

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY


John Fahey
Director of DP Marketing

Release Date: March 19, 1969
Distribution: All Areas

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IBM World Trade Corporation

821 United Nations Plaza
New York, N. Y. 10017
(Code 212) 983-6600
Cable address: Inbusworld

September 29, 1969

TO: DP Literature Coordinators

SUBJECT: DP MARKETING PUBLICATIONS RELEASE LETTER #69-39
SHIPPING REFERENCE F-09299

Recipients of Publications Release Letters

The Weekly Publications Release Letter (PRL) is intended to supply recipients with all current information regarding new and revised publications and any other information that would be of interest to Country and Branch Office Literature Coordinators and/or Librarians.

Included with every PRL is a complete listing of all publications distributed each week to DAPS locations in accordance with their requirements as specified on their DAPS Order Form. Publications are also listed that are not distributed through DAPS, but which are available from the IBM Distribution Center, Mechanicsburg, Pennsylvania, or other supply sources. In addition, also shown are the publications which are released each week to customers enrolled in the SRL Subscription Service.

NEW PUBLICATIONS HANDLING PROCEDURE

We again request your cooperation in submitting addresses with the applicable three-digit Country location code for registration in the new publications handling procedure in Mechanicsburg. The processing of any order received in Mechanicsburg without prior address registration will be greatly delayed.

In the event you do not have a new Publications Requisition Form, No. 111-6034-10, you may use the old Publications Requisition Form, No. 111-6034-9. At the present time, Mechanicsburg is out-of-stock of suffix -10 of the Publications Requisition Form. Additional copies will not be available for at least three weeks. However, when the old Requisition Form is used, you must fill in the Ship Via block with the digit "7", and the Ship to block with a "0" on all orders. In the location block must be noted the three digit Country location Number. In addition to this, you must specify on each Publication Requisition, in the Special Shipping Instruction block, the method of shipment - either "normal" or "expedite".

FOR IBM INTERNAL USE ONLY

September 29, 1969

SYSTEM/3 PUBLICATION

In Section II of this week's PRL we have listed those System/3 Publications that have been distributed since the initial listing in PRL #69-37. All publications are available at the IBM Distribution Center, Mechanicsburg, Pennsylvania, and any additional copies needed should be ordered on the regular Publications Requisition Form, No. 111-6034.

C33-6000-2 -- S/360 MODEL 20 GUIDE TO DPS

The above publication appeared in PRL #69-37 dated September 15, 1969, under "Marketing Publications" as Form #C24-6000-2 with a footnote that the C24 prefix was correct, but that it would appear on the Invoice with a prefix of C33. You will note from your shipment, F-09159, that the publication was received with a prefix of C33. This is correct. The publication should have been listed as C33-6000-2.

SRL SUBSCRIPTION SERVICE

Shipments of the SRL/SS Initial Library and SRL/SS Maintenance have been delayed due to program licensing requirements. However, all back shipments will be sent during the first week of October and will be complete with the exception of those publications affected by World Trade licensing restrictions.



E.M. Burr
DP Sales Publishing Services

Recommended Distribution

DP and OP Sales Managers
DP Education Managers
Industry Managers
Systems Engineering Managers
DP CE Managers
Country and Branch Office
Librarians

Note to Country DP Literature Coordinators

All required copies of this PRL are sent to your attention for redistribution as recommended below -- except for those copies sent directly to DAPS locations at your request (DAPS line code 105). Locations not receiving their copies directly, are dependent on your prompt redistribution of the PRL, or your local equivalent, to enable them to maintain up-to-date libraries and ordering procedures. The Accumulative Supplement to IBM Publications Current Price List, which includes the Accumulative Listing of Obsolete Publications, is distributed each week with the PRL, but as a separate item (DAPS line code 104). To increase your initial quantity of each item, or to enroll DAPS locations for direct receipt of the PRL and the Price List and Obsolete Supplements, send your DAPS Supplemental Order Form #310-0008, to DP Sales Publishing Services, IBM World Trade Distribution Center, Building 306, Route 52, Hopewell Junction, New York 12533.

FOR IBM INTERNAL USE ONLY

SECTION I

Form Number	Release *Hold	Title	DAPS Group &Line Code	Distr. Code	Source Code	Abstract Reference	Disposition
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*Hold items are for unannounced and/or unreleased publications and cannot be requisitioned from the IBM Distribution Center, Mechanicsburg, Pennsylvania until they are listed in the section of the PRL entitled, "RELEASED PUBLICATIONS" (i.e., Formerly Programming Announcement Hold Items). Do not release the "Hold" items until authorized to do so by your Systems Engineering Manager. The programs they are to support are indicated on the attached "Unreleased Programming Publications Listing," which also shows the publications previously distributed that have not yet been released by a Programming Announcement Letter.

REFERENCE SOURCES

GF20-8172-06	R	Bibliography of DP Techniques	01-108	1	1	1800-00/S360-00/ S360(Mod.20)/1130-00	Scrap F20-8172-05
GN20-0360.61	R	SRL to A22-6822-13; S/360 Bibliography	05-102	1	1	S360-00	Scrap N20-0360.60
XZ20-0305-22+	R	KWIC TIE August 69 Fall Catalog	01-110	1	1	S-80.90	Scrap Z20-0305-21 and Z20-1951-00
XZ20-1963-00+	R	TNL to Z20-0305-22: KWIC TIE	01-110	1	1	S-80.90	New

MARKETING PUBLICATIONS

G520-1081-04	R	S/360 Mod.20 Facts Folder	None	9	1	P-01-S360.06	Use 520-1081-03
GA22-6932-00	R	Reference Manual- IBM 545 Models 3 & 4 Output Punch	07-041	1	1	To be announced	New
BC20-8094-00	R	S/360 Mod.20 PL/I Primer	04-047	1	1	To be announced	New
GC24-3414-06	H*	S/360 Disk and Tape Operating System Assembler Language	10-057	1	1	S360-21	Scrap C24-3414-05
GC24-3465-05	H*	IBM S/360 DOS/TOS Util. Specs.	10-065	1	1	S360-32	Scrap C24-3465-04 and TNLS N28-2328 N28-2347,N33-8599
GC24-5022-07	H*	S/360 DOS Operating Guide	10-056	1	1	S360-20	Scrap C24-5022-06 and N24-5388
GC24-5037-07	H*	S/360 DOS Supervisor and Input/Output Macros	10-063	1	1	S360-30	Scrap C24-5037-06 and N24-5380
GC24-5042-04	H*	S/360 DOS/TOS Utility Macros Specs.	10-065	1	1	S360-32	Scrap C24-5042-03
GC24-5062-01	H*	IBM S/360 DOS Autotest Specifications	10-069	1	1	S360-37	Scrap C24-5062-00 and N33-8589
GC24-9001-05	R	S/360 Mod.20 DPS/TPS RPG SRL	06-061	1	1	S360(Mod.20)-28	Scrap C24-9001-04 and N33-9052
GC28-6394-01	H*	IBM S/360 DOS USAS COBOL Language	10-058	1	1	S360-24	Scrap C28-6394-00
GC28-6397-01	H*	IBM S/360 DOS FORTRAN IV Programmer's Guide	10-059	1	1	S360-25	Scrap C28-6397-00
GC28-6398-00	H*	IBM S/360 DOS USAS COBOL Programmer's Guide	10-058	1	1	S360-24	New
GC28-6400-00	H*	IBM S/360 Conversion Aids: COBOL-to- USA Standard COBOL Language Conversion Program	10-058	1	1	S360-24	New
GC28-6644-03	R	IBM S/360 OS: Master Index SRL	12-056	1	1	S360-20	Scrap C28-6644-02
GC33-4001-04	R	S/360 Mod.20 CPS/DPS/TPS BSCA IOCS	06-063	1	1	S360(Mod.20)-30	Scrap C33-4001-03
GC33-4003-01	R	IBM S/360 Mod.20 Remote Job Entry Work Station	03-063	1	1	S360(Mod.20)-30	Scrap C33-4003-00
GE20-0329-00	R	S/360 Data Processing in the City of Memphis School System	05-181	1	1	To be announced	New
GH20-0340-03	R	Structural Engineering System Solver for the IBM 1130 Version User's Manual	None	9	1	1130-60	Use H20-0340-02
GH20-0535-02	R	PLAN Graphics Support for the IBM 2250 on S/360 -- IBM 1130 ADM	05-142	1	1	S360-60/1130-60	Scrap H20-0535-01
GN24-0435-00	R	TNL to A24-3231-5: S/360 Mod.30 Func- tional Characteristics	03-027	1	1	S360-01	New
GN24-0437-00	R	TNL to A24-3255-7: S/360 Mod.30 1401/1440/1460 Compatibility Feature	03-033	1	1	S360-13	New
GN28-2402-00	R	TNL to C28-6713-0: IBM S/360 OS Loader	12-064	1	1	S360-31	New

+These will be invoiced with next week's shipment F-10069.

Form Number	Release *Hold	Title	DAPS Group &Line Code	Distr. Code	Source Code	Abstract Reference	Disposition
GN28-2404-00	R	TNL to C28-6551-7: IBM S/360 OS Storage Estimates	12-056	1	1	S360-20	New
GN28-2405-00+	R	TNL to C28-6554-5: IBM S/360 OS System Generation	12-064	1	1	S360-31	New
GN28-2406-00+	R	TNL to C28-6554-5: IBM S/360 OS System Generation	12-064	1	1	S360-31	New
GN28-3054-00+	R	TNL to C28-2026-1: IBM S/360 Time Sharing System FORTRAN IV Library Subprograms	13-059	1	1	S360-25	New
GN28-3057-00	R	TNL to C28-2008-1: IBM S/360 Time Sharing System System Programmer's Guide	13-071	1	1	S360-50	New
GN30-2530-00	R	TNL to C30-2006-2: IBM S/360 OS Remote Job Entry	12-068	1	1	S360-36	New
GN30-5534-00	H*	TNL to C30-5003-3: IBM DOS QTAM Message Processing Program	10-063	1	1	S360-30	New
GN30-5535-00	H*	TNL to C30-5004-2: IBM S/360 DOS QTAM Message Control Program	10-063	1	1	S360-30	New
GN33-8066-00	R	TNL to C33-4003-1: IBM S/360 Mod.20 Remote Job Entry Work Station	03-063	1	1	S360 (Mod.20)-30	New
GN33-9060-00	R	TNL to C33-6006-2: S/360 Mod.20 DPS SYSGEN	06-056	1	1	S360 (Mod.20)-20	New
GN33-9062-00	R	TNL to C24-9006-4: S/360 Mod.20 DPS CON & SERV.	06-068	1	1	S360 (Mod.20)-36	New
GN33-9063-00	R	TNL to C33-6004-3: S/360 Mod.20 OP Proc	06-056	1	1	S360 (Mod.20)-20	New
GN33-9066-00	H*	TNL to C28-8202-1: DOS/TOS PL/I Subset Ref. Manual - S/360	10-062	1	1	S360-29	New
GN33-9067-00	H*	TNL to C24-9005-4: DOS/TOS PL/I S/360	10-062	1	1	S360-29	New
BR29-0143-02	R	IBM Punched Card Data Processing Principles 83 Sorter Operation Examination	None	9	1	None	Use R29-0143-01
BR29-0265-01	R	IBM Basic PL/I Coding Additional Coding Techniques Text and Examination	None	9	1	None	Use R29-0265-00
GX20-1788-00	R	Charge Description Master -Padded Form	01-043	1	1	To be announced	New
GX20-1789-00	R	Doctor Master File - Padded Form	01-043	1	1	To be announced	New
GX20-1790-00	R	Room and Bed Master - Padded Form	01-043	1	1	To be announced	New
DYB0-0470-00	R	APL/360 OS Assembly Listings: System Manual Program No. 5734-XM1	None	9	1	S360-65	New
DYB0-0471-00	R	APL/360 DOS Assembly Listings: System Manual Program No. 5736-XM1	None	9	1	S360-65	New
GY19-0002-00	R	Requirements Planning and Inventory Control System	05-158	1	1	None	New
GY20-0104-01	R	1130 Work Measurement Aids, Version 2 System Manual, Vol. 1	None	9	1	1130-60	Scrap Y20-0104-00
GY24-5017-07	H*	IBM S/360 DOS Introduction to System Control Programs - PLM	10-088	1	1	S360-36 (DOS)	Scrap Y24-5017-06
GY24-5086-01	H*	IBM S/360 DOS, IPL and Job Control Programs, PLM	10-088	1	1	S360-36	Scrap Y24-5086-00 Y24-5109, Y24-5120 Y24-5126
GY28-2407-00	R	TNL to Y28-6681-1: IBM S/360 OS Consolidated Document PLM	12-088	1	1	S360-36	New
GY28-2408-00	R	TNL to Y28-6681-1: IBM S/360 OS Consolidated Document PLM	12-088	1	1	S360-36	New
GY28-6392-00	H*	IBM S/360 DOS USA Standard COBOL	PLM 10-078	1	1	S360-24	New
GY28-6717-00	R	IBM S/360 OS PLM Master Index	12-077	1	1	S360-21	New
GY30-5537-00	H*	TNL to Y30-5002-3: S/360 DOS QTAM	PLM 10-083	1	1	S360-30	New
GY33-8004-01+	R	S/360 Mod.20 BSCA IOCS PLM	03-083	1	1	S360 (Mod.20)-30 (CPS/DPS/TPS)	Scrap Y33-8004-00 and TNL Y33-8014, Y33-9037
GY33-8006-00	R	IBM S/360 Mod.20 Remote Job Entry Work Station PLM	03-083	1	1	S360 (Mod.20)	New
GY33-8018-00	H*	TNL to Y26-3716-0: IBM S/360 DOS Assembler PLM	10-077	1	1	S360-21	New
GY33-8019-00	R	TNL to Y33-8006-0: IBM S/360 Mod.20 Remote Job Entry Work Station PLM	03-083	1	1	S360 (Mod.20)	New
GY33-9044-00	R	TNL to Y33-9008-2: S/360 Mod.20 DPS CTRL & SERV PLM	06-088	1	1	S360 (Mod.20)-36	New
GY33-9051-00	H*	TNL to Y33-9012-1: DOS/TOS PL/I Subs. L.PLM Vol. III S/360	10-082	1	1	S360-29	New
GZ24-5091-03	H*	IBM S/360 DOS CE Serviceability Prog.	Special	8	1	S360-20 (DOS)	Scrap Z24-5091-02

+These will be invoiced with next week's shipment F-10069.

Form Number	Release *Hold	Title	DAPS Group &Line Code	Distr. Code	Source Code	Abstract Reference	Disposition
<u>DP FE (CE) PUBLICATIONS</u>							
H131-0003-01	R	1017 Paper Tape Reader Models 1 and 2 - IPC	01-042	1	1	None	Scrap 131-0003-00
HR25-5431-00	R	2701 Data Adapter Type I - Student Self Study	01-042	9	1	None	New
HR25-5432-00	R	2701 Data Adapter Unit Type I - Student Guide	01-042	9	1	None	New
HR25-5433-00	R	2025 1400 Emulator- Student Guide	01-042	9	1	None	New
HR31-0359-02	R	Bill of Forms Processing Requisite	None	9	1	None	Use R31-0359-01
HS23-4065-00	R	FES to 223-2926-2: 29 Card Punch Features/29 Interpreting Card Punch, Model C FETMM	01-042	1	1	None	New
HY24-0514-00	R	FES to Y24-3527-0: 2025 Processing Unit FETOM	01-042	1	1	None	New
HY25-2209-01	R	2025 System I/O Lab for FIS - Student Quiz	01-042	9	1	None	Scrap Y25-2209-00
HY25-2769-01	R	2841 Storage Control - Student Quiz #2	01-042	9	1	None	Scrap Y25-2769-00
HY25-2770-01	R	2841 Storage Control - Student Quiz #3	01-042	9	1	None	Scrap Y25-2770-00
HY26-0700-00	R	FES to Y26-3688-3: IBM 2841 MMS FEMM	05-042	1	1	None	New
HY33-1047-00	R	FES to Y33-1035-0: 2020 Processing Unit S/360 Mod.20	04-042	9	1	None	New

Letter Number	Release *Hold	Title	Dated	Distr. Code	Source of Supply Code
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DP MARKETING COMMUNICATIONSDP Program Announcements

P69-106	R	OS/360 Provides Improved Reliability Through Updated Release 17 and Cobol F Maintenance	September 22, 1969	4	2
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Weekly Flash

WF 69-38 (WT)	R	--	September 19, 1969	4	4
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RELEASED PUBLICATIONS

(Formerly Programming Announcement Hold Items).

N O N E

DISTRIBUTION CODES

1. Distribution to all DAPS locations from East Fishkill.
2. Distribution to HQ DAPS locations only from East Fishkill.
3. All copies mailed to Country HQ DP Sales Managers.
4. Country HQ copies mailed to DP Sales Managers. Copies for Branch Office included in weekly DAPS package from East Fishkill. Await authorization to release from Country HQ.
5. Advance copies mailed to Country HQ DP Sales Managers. Bulk quantities air-freighted to Country HQ Literature Distribution Coordinator.
6. Mailed from WTHQ, New York.
7. Previously released to DAPS. Released this week to SRL Subscription Service.
8. Special distribution to pre-selected locations.
9. No distribution made. Notice of publications release only. Copies available from "Supply Source".

SUPPLY SOURCE CODES

1. Order from IBM Distribution Center, Mechanicsburg, Pennsylvania.
2. Order from WT DP Sales Publishing Services, White Plains, New York.
3. Order from WT DP Sales Publishing Services, East Fishkill, New York.
4. No additional copies available.

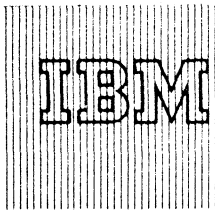
SECTION II

<u>Form Number</u>	<u>Title</u>	<u>Reference No.</u>	<u>Disposition</u>
<u>SYSTEM/3 PUBLICATIONS</u>			
P210-0005-00	IBM S/3 Education Proposal Insert	None	New
KR20-6004-00	S/3 RPG II Programming Workshop	None	New
KR20-6006-00	S/3 RPG II Programming Workshop - Student Exercises	None	New
KR20-6011-00	S/3 RPG II Programming Fundamentals	None	New
PR20-9306-00	S/3 Application Design	None	New
KR20-9307-00	S/3 Installation Control for Management	None	New
PR20-9308-00	S/3 Introduction to Computing Systems	None	New
PR20-9310-00	S/3 RPG II Programming Workshop	None	New
HR31-0461-00	S/3 5496 Data Recorder	None	New

Form Number	Title	Previous DAPS PRL Listing	Reason for Hold
<u>UNRELEASED PROGRAMMING PUBLICATIONS**</u>			
Y28-6663-0	/360 OS; Sort/Merge - Controlled Release Documentation	#33	Special Restricted Distribution
Y28-6664-0	/360 OS; Sort/Merge - Controlled Release Documentation	#33	Special Restricted Distribution
Y28-2271-0	TNL to Y28-6663-0; Controlled Release Documentation	#36	Special Restricted Distribution
Y28-2272-0	TNL to Y28-6664-0; Controlled Release Documentation	#36	Special Restricted Distribution
C28-6655-0	/360 BPS; 16K Sort/Merge Operator's Guide	#41	Hold for Product A
N28-2302-0	TNL to C28-6586-6; /360 OS; Utilities	#68-03	Unannounced Program
Y20-0001-3	/360 OS Performance Factors: Reference Data	#68-31	Unannounced Program
N33-8582-0	TNL to C24-3343-2; BPS Autotest Specs.	#69-02	Prog. No. 360P-PT-045
N33-8050-0	TNL to C26-3724-1; IBM 1800 Multiprogramming Executive OS Subroutine Library	#69-21	Hold for the Release of Version 1, Modification 3 of the IBM 1800 Multiprogramming - Prog. No.'s 1800-MPX-OS, 1800-OS-010
Y28-6714-0	IBM/Operating System Loader Program Logic Manual	#69-25	Unannounced Program
H20-0344-3	Project Management System/360 Version 2 Program Description and Operations Manual	#69-25	Applies to Version 2 Model 1
N21-5106-0	TNL to C24-3464-1, -2: IBM/360 BPS Report Program Generator (CARD) Operating Guide	#69-28	BPS Release 03 Prog. No. 360P-RG-200
N26-0598-0	TNL to C26-3718-3: IBM 1800 Multiprogramming Executive OS Introduction	#69-29	Refers to Announcement of 1800/2790 Data Communications System, Prog. No. 1800-OS010
N33-8063-0	TNL to C26-3703-0: IBM 1800 Time Sharing Executive System Concepts and Techniques	#69-29	Refers to Announcement of 1800-OS-001, Version 3, Modification 7
C24-3414-06	S/360 Disk and Tape Operating System Assembler Language	#69-39	DOS Release 21
C24-3465-05	IBM S/360 DOS/TOS Util. Specs.	#69-39	DOS Release 21
C24-5022-07	DOS Operating Guide	#69-39	DOS Release 21
C24-5037-07	DOS Supervisor and Input/Output Macros	#69-39	DOS Release 21
C24-5042-04	DOS Utility Macros Specifications	#69-39	DOS Release 21
C24-5062-01	IBM S/360 DOS Autotest Specifications	#69-39	DOS Release 21
C28-6394-01	IBM S/360 DOS USAS COBOL Language	#69-39	DOS Release 21
C28-6397-01	IBM S/360 DOS FORTRAN IV Programmer's Guide	#69-39	DOS Release 21
C28-6398-00	IBM S/360 DOS USAS COBOL Programmer's Guide	#69-39	DOS Release 21
C28-6400-00	IBM S/360 Conversion Aids: COBOL-to-USA Standard COBOL Language	#69-39	DOS Release 21
N30-5534-00	TNL to C30-5003-3: IBM DOS QTAM Message Processing Program	#69-39	DOS Release 21
N30-5535-00	TNL to C30-5004-2: IBM S/360 DOS QTAM Message Control Program	#69-39	DOS Release 21
N33-9066-00	TNL to C28-8202-1: DOS/TOS PL/I Subset Ref. Manual	#69-39	DOS Release 21

<u>Form Number</u>	<u>Title</u>	<u>Previous DAPS PRL Listing</u>	<u>Reason for Hold</u>
N33-9067-00	TNL to C24-9005-4: DOS/TOS PL/I Progr. G.	#69-39	DOS Release 21
Y24-5017-07	IBM S/360 DOS Introduction to System Control Programs	#69-39	DOS Release 21
Y24-5086-01	IBM S/360 DOS, IPL and Job Control Programs, PLM	#69-39	DOS Release 21
Y28-6392-00	IBM S/360 DOS USA Standard COBOL PLM	#69-39	DOS Release 21
Y30-5537-00	TNL to Y30-5002-3: IBM DOS QTAM PLM	#69-39	DOS Release 21
Y33-8018-00	TNL to Y26-3716-0: IBM S/360 DOS Assembler PLM	#69-39	DOS Release 21
Y33-9051-00	TNL to Y33-9012-1: DOS/TOS PL/I Subs. L. PLM Vol. III	#69-39	DOS Release 21
Z24-5091-03	IBM S/360 DOS CE Serviceability Prog.	#69-39	DOS Release 21

**Withhold distribution until authorized to do so by your Systems Engineering Manager. Unreleased Publications cannot be requisitioned from Mechanicsburg until they are listed in the special section of the PRL entitled, "RELEASED PUBLICATIONS" (Formerly Programming Announcement Hold Items).



NEW TYPE II PROGRAM, ORDER ALLOCATION SYSTEM, FOR THE DISTRIBUTION INDUSTRY

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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

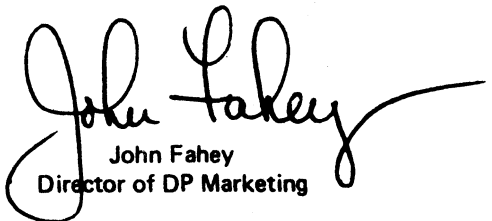
The Order Allocation System will assist apparel and shoe manufacturers in the tasks of assigning available inventory to open orders and determining which shipments should be made. Input consists of the user's order and inventory files and the rules to be followed in accomplishing the allocation and shipping functions. Output consists of printed picking documents and updated order and inventory files, as well as listings, reports and control totals.

Advantages of the system include:

- . Better management control of the shipping function
- . Better utilization of shipping facilities and personnel
- . Reduction of inventory levels
- . Increase in units shipped per period
- . Reduction of cancellations due to late deliveries
- . Earlier shipments
- . Automatic detection and resolution of critical situations
- . Shipment of more merchandisable packages
- . Better overall customer service

The Order Allocation System for apparel and shoe manufacturers will run on Models 25 and up under DOS/360 and be available March 2, 1970.

See the reverse side and Application Description Manual (H20-0604) for details.


John Fahey
Director of DP Marketing

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Published by DP Sales Publishing Services, WTHQ

Release Date: March 19, 1969
Distribution: All Areas

Order Allocation System: Assists apparel manufacturers in the tasks of assigning, or "allocating", available inventory to open orders and determining which shipments are to be made against the orders. Input to the system consists of the user's order and inventory files and the rules to be followed in accomplishing the allocation and shipping functions. Output from the system consists of picking documents and updated order and inventory files, as well as listings, reports and control totals.

Description: The allocation and shipping objectives of apparel firms are widely varied, depending upon the type of firm, customer ordering patterns, merchandising philosophy, the season or portion of a season involved, and the balance between inventory and open orders. Some of the more common objectives desired, either singly or in combination, are:

- Better management control of the shipping function.
- Increase in units shipped per period.
- Reduction of inventory levels.
- Better utilization of shipping facilities and personnel.
- Better overall customer service.
- Shipment of more merchandisable packages.

The Order Allocation System is a set of programs and related documentation designed to assist apparel firms in the accomplishment of these, and similar, objectives. The component programs of the system are:

Condense inventory -- creates a condensed version of the user's inventory file for use by the Order Allocation System.

Order selection -- selects the orders on the user's order file to be processed during the next cycle, assigns them priority values, and creates a selected order file that serves as the source of order data for the system.

Allocate stock -- allocates stock from the condensed inventory file to the selected order file and updates the files.

Determine shipments -- determines which previously allocated orders and units are to be shipped and updates the selected order and condensed inventory files.

Print picking slips -- produces picking documents for each "shipped" order.

Adjustment -- adjusts the selected order and condensed inventory files to reflect variances between actual and assumed shipments.

Update orders -- updates the user's order file.

Expand inventory -- updates the user's inventory file.

Order report -- generates inquiries and listings of any group of orders on the selected or user's order file.

Features:

- Ability to simulate most existing systems.
- Processing requirements defined at execution time by means of a standardized control technique.
- Separation of allocation and shipping functions.
- Provides for special handling codes on order and inventory records.
- Routines for special handling of fringe and central size relationships.
- Routines for special handling of "coordinated" merchandise groups.
- Provides for maximum limitations on daily shipments.
- Processing by user-defined groups of orders.
- Entire order is considered.

Use: The Order Allocation System performs only a limited set of functions within the customer's "front-end" system. The customer must create and update order and inventory files that are then passed to the system via two user-to-system file interface programs (condense inventory, order selection).

As the order file is passed to the system, priorities are assigned to each selected order, and the selected order file is then sorted into priority sequence for processing. Stock is allocated from the condensed inventory file to the selected order file (allocation program). If desired, new priorities can then be assigned to the selected order file (order selection program), and the file can be resorted into a new priority sequence. Selected orders with allocated stock are processed to determine which orders are to be shipped (shipping program), and picking slips are printed (print pick slips program).

The picking slips are used to fill orders. All changes from the printed slips are entered into the system, and files are adjusted (adjustment program) to reflect the changes. The user's order and inventory files are updated by two system-to-user file interface programs (update orders, expand inventory) and an allocation cycle is completed.

Selection of orders, assignment of priority codes, allocation of stock, determination of shipments and the printing of tailored order file reports are controlled by the standardized control technique that allows different types of processing for each user-defined class of orders.

Customer Responsibilities:

Files -- The customer must provide the Order Allocation System with updated order and inventory files compatible with the system. This may be done by (1) creating, maintaining, and updating files of compatible format or (2) by modifying the file interface programs (condense inventory, select orders, update orders, expand inventory) to accept the user's file formats.

Processing criteria and rules -- Familiarity with both the Order Allocation System and the customer's allocation and shipping requirements is necessary to formulate the processing rules and the criteria for the application of the rules to different classes of orders.

Systems and Programming Requirements:

Programming Systems: All programs are written using Assembler Language (AL) running under the Disk Operating System (DOS/360).

Minimum Systems Requirements: A 2025 Processing Unit Model DC (24,576 bytes) with ... two 2311 Disk Drives Model 1 ... a Card Reader (2540 ... 1442*, 2501*, 2520*) ... a Punch (2540 ... 1442*, 2520*) ... a Printer (1403 ... 1443*) ... and a Printer-Keyboard (1052). In a multi-programming environment, an 18K background partition would be required. DOS core image requirements in addition to system residence requirements are approximately 20 cylinders, in addition to the 4 cylinders required for the Order Allocation System relocatable library. The balance of the available cylinders on the two disk packs are for order and inventory records.

* These devices will require an MPX or Selector channel.

Program Support Material:

Order Allocation System Application Description Manual (H20-0604).

For further information, contact your Regional Distribution Industries Marketing Representative.

October 6, 1969

TO: DP Literature Coordinators

SUBJECT: DP MARKETING PUBLICATIONS RELEASE LETTER #69-40
SHIPPING REFERENCE F-10069

Recipients of Publications Release Letters

The Weekly Publications Release Letter (PRL) is intended to supply recipients with all current information regarding new and revised publications and any other information that would be of interest to Country and Branch Office Literature Coordinators and/or Librarians.

Included with every PRL is a complete listing of all publications distributed each week to DAPS locations in accordance with their requirements as specified on their DAPS Order Form. Publications are also listed that are not distributed through DAPS, but which are available from the IBM Distribution Center, Mechanicsburg, Pennsylvania, or other supply sources. In addition, also shown are the publications which are released each week to customers enrolled in the SRL Subscription Service.

SYSTEM/360 -- DOS Release 21

Program Announcement Letter P69-113 dated September 30, 1969 announced the availability of DOS Release 21. All material listed in the Announcement Letter was distributed either with DAPS shipment F-09299 or, this week, with DAPS shipment F-10069, except for the following publications which are not yet available: C30-5001-6, Y24-5080-1, and Y28-6399-0. As soon as this material is available, it will be distributed immediately.

Since the IBM Distribution Center, Mechanicsburg is in the process of making SRL/SS shipments which will not be complete for another week to ten days, please take this into consideration before ordering additional publications.

FOR IBM INTERNAL USE ONLY

October 6, 1969

PUBLICATION HANDLING PROCEDURE

IBM Mechanicsburg advises that the majority of publication orders received are in error. We have listed below those errors which are occurring most frequently:

- 1- Punched Card Orders: In many cases an "X" punch has been incorrectly entered in Column 40 instead of the required "11X" punch.
- 2- Publication Requisition: Many requisitions submitted with a non-registered 3-digit Country location code.
- 3- Wire Orders: A majority of wire or cable orders do not contain sufficient information. For example, shipped-to address, Country name or number, 3-digit shipped-to code, etc.

We again request your cooperation in rectifying these errors.



E.M. Burr
DP Sales Publishing Services

Recommended Distribution

DP and OP Sales Managers
DP Education Managers
Industry Managers
Systems Engineering Managers
DP CE Managers
Country and Branch Office
Librarians

Note to Country DP Literature Coordinators

All required copies of this PRL are sent to your attention for redistribution as recommended below -- except for those copies sent directly to DAPS locations at your request (DAPS line code 105). Locations not receiving their copies directly, are dependent on your prompt redistribution of the PRL, or your local equivalent, to enable them to maintain up-to-date libraries and ordering procedures. The Accumulative Supplement to IBM Publications Current Price List, which includes the Accumulative Listing of Obsolete Publications, is distributed each week with the PRL, but as a separate item (DAPS line code 104). To increase your initial quantity of each item, or to enroll DAPS locations for direct receipt of the PRL and the Price List and Obsolete Supplements, send your DAPS Supplemental Order Form #310-0008, to DP Sales Publishing Services, IBM World Trade Distribution Center, Building 306, Route 52, Hopewell Junction, New York 12533.

FOR IBM INTERNAL USE ONLY

Form Number	Release *Hold	Title	DAPS Group &Line Code	Distr. Code	Source Code	Abstract Reference	Disposition
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*Hold items are for unannounced and/or unreleased publications and cannot be requisitioned from the IBM Distribution Center, Mechanicsburg, Pennsylvania until they are listed in the section of the PRL entitled, "RELEASED PUBLICATIONS" (i.e., Formerly Programming Announcement Hold Items). Do not release the "Hold" items until authorized to do so by your Systems Engineering Manager. The programs they are to support are indicated on the attached "Unreleased Programming Publications Listing," which also shows the publications previously distributed that have not yet been released by a Programming Announcement Letter.

MARKETING PUBLICATIONS

GC24-5030-06	R	/360 DOS/TOS Concepts and Facilities	10-056	1	1	S360-20	Scrap C24-5030-05 and N24-5379-00
GC24-5033-08	R	/360 DOS System Generation and Maintenance	10-064	1	1	S360-31	Scrap C24-5033-07
GC24-5038-03	R	/360 DOS/TOS: Basic FORTRAN IV Programmer's Guide	10-059	1	1	S360-25	Scrap C24-5038-02
GN21-5105-00	R	TNL to C26-3570-4-5: /360 DOS/TOS Report Program Generator Specifications	10-061	1	1	S360-28 (DOS/TOS)	New
GN24-5387-00	R	TNL to C24-5036-4: /360 DOS System Control and System Service Programs	10-068	1	1	S360-36 (DOS)	New
GN24-5392-00	R	TNL to C24-3427-4: /360 DOS Data Management Concepts	10-063	1	1	S360-30 (DOS)	New
GN24-5393-00	R	TNL to C24-5032-8: /360 DOS Timing Estimates	10-056	1	1	S360-20 (DOS)	New
PR20-9165-01	R	/360 Assembler Language Coding-P.I. Course Description	05-047	1	1	None	Scrap R20-9165-00
PR20-9305-00	R	1130 RPG Coding Programmed Instruction-Course Description	02-047	1	1	None	New
BR29-0278-00	R	1130 RPG Coding Programmed Instruction-Examination	02-047	8	1	None	New
BR29-0279-00	R	1130 RPG Coding-P.I. Advisor Guide Supplement	02-047	8	1	None	New
GY24-5084-03	R	/360 DOS Supervisor and Physical and Logical Transients - PLM	10-088	1	1	S360-36 (DOS)	Scrap Y24-5084-02 Y24-5125-00 and Y24-5132-00
GY24-5087-02	R	/360 DOS LIOCS, Volume 2 - PLM	10-083	1	1	S360-30 (DOS)	Scrap Y24-5087-01 Y24-5128-00 and Y24-5122-00
GY24-5119-00	R	TNL to Y24-5088-2: /360 DOS LIOCS, Volume 3: SEQ and DA FILES - PLM	10-083	1	1	S360-30 (DOS)	New
GY24-5136-00	R	TNL to Y24-5079-1: /360 DOS Librarian Maintenance and Service Programs	10-084	1	1	S360-31 (DOS)	New
GY24-5137-00	R	TNL to Y24-5020-4: /360 DOS LIOCS PLM, Volume 1: Introduction	10-083	1	1	S360-30 (DOS)	New
GY28-6397-00	R	/360 Conversion Aids: COBOL-to-USA Standard COBOL Language Conversion Program - PLM	10-078	1	1	S360-24	New
GY30-5531-00	R	TNL to Y30-5001-3: /360 DOS BTAM - PLM	10-083	1	1	S360-30	New
GY33-9046-00**	R	TNL to Y33-9010-2: /360 DOS/TOS PL/I Sub. L.- PLM, Volume 1	10-082	1	1	S360-29	New

TIE PAPERS

XZ77-9194-00	R	Guidelines for O/S COBOL F Programming	01-127	1	1	None	New
XZ77-9195-00	R	A Guide to the Modification of Personal Trust Type III Program 360D 19.7.011 for Use in 65K	01-127	1	1	None	New
XZ77-9196-00	R	SECOM - A User's Handbook	01-127	1	1	None	New
XZ77-9197-00	R	CSS/360 Reference Card	01-127	1	1	None	New
XZ77-9198-00	R	Programming External Interrupts for DOS/360 in PL/I & COBOL	01-127	1	1	None	New

**This is the correct form number. Invoice reads Y33-9045. This will be invoiced with next week's shipment F-10139.

Form Number	Release *Hold	Title	DAPS Group &Line Code	Distr. Code	Source Code	Abstract Reference	Disposition
<u>DP FE (CE) PUBLICATIONS</u>							
H123-0437-05	R	2671/2822 Paper Tape Reader/Control Unit- Parts Catalog	01-042	8	1	None	Scrap 123-0437-04
HR25-5385-00	R	1259 Magnetic Character Reader- Student Guide	01-042	8	1	None	New
HR25-5422-00	R	2560 Multi-Function Card Machine- Student Guide	01-042	8	1	None	New
HR25-5428-00	R	2701 Data Adapter Type II- Student Guide	01-042	8	1	None	New
HR27-9608-00**	R	2020 P.U. Submodel 5 Lab for FIS- Student Guide	01-042	8	1	None	New
HR27-9609-00	R	1403 Printer Mechanics - Student Guide	01-042	8	1	None	New
HR31-0301-02	R	General System Technical Orientation- Student Guide	01-042	8	1	None	Scrap R31-0301-01 and S29-3548-00
HS29-3554-00	R	FES to R31-0245-1: /360 Mod.30 I/O Student Guide	05-042	8	1	None	New
HS29-3555-00	R	FES to R31-0332-0: Data System Tech. Orientation - Student Guide	01-042	8	1	None	New
HY22-6760-00	R	2085 FEMM	01-042	8	1	None	Scrap Z22-6760-01
HY22-6761-00	R	2085 Processing Unit FEIM	01-042	8	1	None	New
HY22-6802-00	R	FES to Y22-6748-0: 50 MDI FETMM	01-042	8	1	None	New
HY25-2232-00	R	2025/1400 Emulator- Student Quiz	01-042	8	1	None	New
HY25-3157-00	R	2020 P.U. Sub. 5 Lab for FIS- Student Quiz	01-042	8	1	None	New
HY25-3158-00	R	2020 P.U. Sub. 5 Lab for FIS- Student Quiz	01-042	8	1	None	New
HY33-3002-00	R	1018 Paper Tape Punch FETOM	01-042	8	1	None	Scrap Z33-3002-00

COMPUTER DESCRIPTION MANUAL INSERTS (CDM'S)

#69-36	R	Management Highlight (World Trade Supp) September 5, 1969	--	3	2	--	--
#69-37	R	Management Highlight (World Trade Supp) September 12, 1969	--	3	2	--	--

PROGRAMMING SYSTEMS MEMORANDA (PSM'S)

--	R	Group 40	01-096	1	3	None	--
--	R	Group 42	07-096	1	3	None	--
--	R	Group 44	12-096	1	3	None	--
--	R	Group 47	03-096	1	3	None	--

OTHER DP MARKETING PUBLICATIONS

#69-19	R	Installation Newsletter, September 26, 1969	07-094	1	3	None	New
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SECOM PUBLICATIONS

--	R	SECOM Abstract Listing September 19, 1969	01-098	8	4	None	New
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Letter Number	Release *Hold	Title	Dated	Distr. Code	Source of Supply Code
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DP MARKETING COMMUNICATIONSWeekly Flash

WF 69-39 (WT)	R	--	September 26, 1969	4	4
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**This is the correct form number. Due to a keypunch error, count-out and invoice will read RIM-9608.

Letter Number	Release *Hold	Title	Dated	Distr. Code	Source of Supply Code
<u>DP Program Announcements</u>					
P69-107		To be distributed at a later date			
P69-108	R	RJE Work Station Program Available With Model 20 TPS	September 26, 1969	4	2
P69-109	R	1800 MPX Made More Modular	September 29, 1969	4	2
P69-110	R	OS/360 BTAM Support To Be Available For 2972-8 General Banking Station	September 29, 1969	4	2
P69-111	R	1130 MACRO Assembler and MACRO Update Facility Enhance The Disk Monitor System Version 2	September 29, 1969	4	2
P69-111A	R	New Capabilities to PL/I Available in TOS/360 Release 13	September 29, 1969	4	2
P69-111B	R	1275 Optical Reader Sorter Supported by OS/360	September 30, 1969	4	2
P69-111C	R	1419 Magnetic Character Reader Supported by OS/360	September 30, 1969	4	2
P69-112	R	System/360 Model 20 Card Programming Support Contains New Program and Versions	September 30, 1969	4	2
P69-113	R	DOS/360 Release 21 Boosts Capabilities, Extensions, Reliability	September 30, 1969	4	2
P69-114	R	PALIS (Type II) Program Maintenance Release is Available	September 30, 1969	4	2

W.T. INSTALLATION PLANNING PUBLICATIONS AND TEMPLATESTemplates - Scale 1:50 (Metric Scale)

Form Number	Description	Obtainable From
57314-0	IBM System/3	DP Stationery Stores, Germany
57315-0	IBM System 2750	

Cable Order Form

120-0720-2	1620 Model 2	Mechanicsburg, Pa.
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RELEASED PUBLICATIONS
(Formerly Programming Announcement Hold Items)

Form Number	Previous DAPS PRL Listing	Form Number	Previous DAPS PRL Listing
C24-3414-06	#69-39	N30-5534-00	#69-39
C24-3465-05	#69-39	N30-5535-00	#69-39
C24-5022-07	#69-39	N33-9066-00	#69-39
C24-5037-07	#69-39	N33-9067-00	#69-39
C24-5042-04	#69-39	Y24-5017-07	#69-39
C24-5062-01	#69-39	Y24-5086-01	#69-39
C28-6394-01	#69-39	Y28-6392-00	#69-39
C28-6397-01	#69-39	Y30-5537-00	#69-39
C28-6398-00	#69-39	Y33-8018-00	#69-39
C28-6400-00	#69-39	Y33-9051-00	#69-39
		Z24-5091-03	#69-39

DISTRIBUTION CODES

- Distribution to all DAPS locations from East Fishkill.
- Distribution to HQ DAPS locations only from East Fishkill.
- All copies mailed to Country HQ DP Sales Managers.
- Country HQ copies mailed to DP Sales Managers. Copies for Branch Office included in weekly DAPS package from East Fishkill. Await authorization to release from Country HQ.
- Advance copies mailed to Country HQ DP Sales Managers. Bulk quantities air-freighted to Country HQ Literature Distribution Coordinator.
- Mailed from WTHQ, New York.
- Previously released to DAPS. Released this week to SRL Subscription Service.
- Special distribution to pre-selected locations.
- No distribution made. Notice of publications release only. Copies available from "Supply Source".

SUPPLY SOURCE CODES

- Order from IBM Distribution Center, Mechanicsburg, Pennsylvania.
- Order from WT DP Sales Publishing Services, White Plains, New York.
- Order from WT DP Sales Publishing Services, East Fishkill, New York.
- No additional copies available.

<u>Form Number</u>	<u>Title</u>	<u>Previous DAPS PRL Listing</u>	<u>Reason for Hold</u>
<u>UNRELEASED PROGRAMMING PUBLICATIONS**</u>			
Y28-6663-0	/360 OS; Sort/Merge - Controlled Release Documentation	#33	Special Restricted Distribution
Y28-6664-0	/360 OS; Sort/Merge - Controlled Release Documentation	#33	Special Restricted Distribution
Y28-2271-0	TNL to Y28-6663-0; Controlled Release Documentation	#36	Special Restricted Distribution
Y28-2272-0	TNL to Y28-6664-0; Controlled Release Documentation	#36	Special Restricted Distribution
C28-6655-0	/360 BPS; 16K Sort/Merge Operator's Guide	#41	Hold for Product A
N28-2302-0	TNL to C28-6586-6; /360 OS; Utilities	#68-03	Unannounced Program
Y20-0001-3	/360 OS Performance Factors: Reference Data	#68-31	Unannounced Program
N33-8582-0	TNL to C24-3343-2; BPS Autotest Specs.	#69-02	Prog. No. 360P-PT-045
N33-8050-0	TNL to C26-3724-1; IBM 1800 Multiprogramming Executive OS Subroutine Library	#69-21	Hold for the Release of Version 1, Modification 3 of the IBM 1800 Multiprogramming - Prog. No.'s 1800-MPX-OS, 1800-OS-010
Y28-6714-0	IBM/Operating System Loader Program Logic Manual	#69-25	Unannounced Program
H20-0344-3	Project Management System/360 Version 2 Program Description and Operations Manual	#69-25	Applies to Version 2 Model 1
N21-5106-0	TNL to C24-3464-1, -2: IBM/360 BPS Report Program Generator (CARD) Operating Guide	#69-28	BPS Release 03 Prog. No. 360P-RG-200
N26-0598-0	TNL to C26-3718-3: IBM 1800 Multiprogramming Executive OS Introduction	#69-29	Refers to Announcement of 1800/2790 Data Communications System, Prog. No. 1800-OS010
N33-8063-0	TNL to C26-3703-0: IBM 1800 Time Sharing Executive System Concepts and Techniques	#69-29	Refers to Announcement of 1800-OS-001, Version 3, Modification 7

**Withhold distribution until authorized to do so by your Systems Engineering Manager. Unreleased Publications cannot be requisitioned from Mechanicsburg until they are listed in the special section of the PRL entitled, "RELEASED PUBLICATIONS" (Formerly Programming Announcement Hold Items).

IBM**IBM World Trade Data Processing**

P69-41

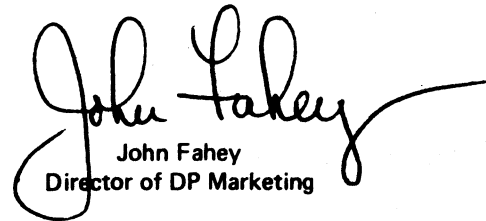
PROGRAM ANNOUNCEMENT**DOS/360 EXTENSIONS SCHEDULE CHANGE****Note to World Trade Readers**

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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

The Outboard Recording, Statistical Data Recording, and Machine Recording and Recovery (OBR/SDR/MCRR) functions of DOS/360 which were to be available April 30, 1969, (P68-159) will now be available September 30, 1969.

Customers affected by this change should be notified.



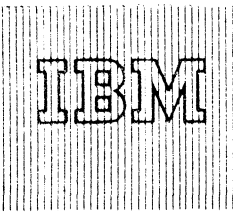
John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: March 21, 1969
Distribution: All Areas

P69-41



P69-42

VERSION 4 OF 7080 EMULATOR PROGRAM FOR MODEL 65 AVAILABLE

Version 4 of the 7080 Emulator Program for the System/360 Model 65 (360C-EU-727) is now available.

Note to World Trade Readers

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[4] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
[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.

In addition to all the features of previous versions, it includes the 2420 Magnetic Tape Units Models 5 and 7 and 2803 Tape Control Unit Model 2 support for emulation of 729 Tape Units. Version 4 obsoletes Version 3.

The 7080 Emulator Program is a stand-alone program that, with the 7080 Compatibility Feature (7118), executes currently-operating 7080 programs on a System/360 Model 65. The emulator program and the compatibility feature combined are referred to as an emulator. Programs for 705 I/II and 705 III can also be run by the emulator, if they are compatible with the 7080. This usually requires running these programs in conjunction with INT580; however, 705 III programs that can be run without modification on the 7080 will run on the emulator.

By eliminating the requirement to convert all 7080 programs before installing the System/360, the emulator allows the user to apply most of his programming resources toward developing new applications and redesigning existing applications to take full advantage of System/360 facilities. Use of the emulator also eases the pressure of program testing.

The average internal speed of the Emulator on System/360 Model 65 is equal to that of the 7080. Timing information is presented in the SRL publication IBM System/360 Conversion Aids: The 7080 Emulator Program for IBM System/360 Model 65, C27-6911 and TNL N27-1307.

See the reverse side for system requirements, I/O device correspondence table, reference material, program material and ordering instructions.

Handwritten signature of John Fahey, Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: March 26, 1969
Distribution: All Areas

The 7080 configuration being emulated may include 10 tape units on each of four communication channels, a 7153 Console, and two 7502 Console Card readers.

In addition to the compatibility feature, System/360 requirements are:

At least 262,144 bytes of main storage (Model H) for the emulation of a 7080 with 80K characters of memory. 524,288 bytes of main storage (Model I) is the minimum requirement to emulate a 7080 with a 160K character memory.

One 1052 Printer-Keyboard.

One selector channel for each communication channel of the 7080 being emulated.

One 2401, 2402, or 2403 Magnetic Tape Unit, Model 1-6, or one 2402 Magnetic Tape Unit, Model 1-3, or one 2420 Magnetic Tape Unit Model 5 or 7 for each 729 Tape Unit to be emulated.

If the Emulator Program is to be loaded from a magnetic tape unit equipped with the Seven-Track Read Write Head (9557) and the Seven-Track Compatibility Feature (7125, 7126, or 7127), the Data Conversion feature (3228 or 3236) must be installed on the associated tape control unit. After the program has been loaded, the load device is available as a 7080 corresponding device (see below).

I/O Device Correspondence table for 7080 Emulator

<u>7080 Device</u>	<u>System/360 Device</u>
7153 Console	1052 Printer-Keyboard
7502 Console Card Reader	1442 Card Read Punch Model N1 2501 Card Reader Models B1, B2 2520 Card Read Punch Model B1 2540 Card Read Punch
729 Series Magnetic Tape Units	2420 Magnetic Tape Unit Model 5 or 7 or 2401, 2402, or 2403 Magnetic Tape Units, Model 1-6, or 2404 Magnetic Tape Units, Model 1-3.

Reference Material -- System/360 System Summary, A22-6810 ... System/360 Principles of Operation, A22-6821 ... 7080 Principles of Operation, A22-6560.

Basic Program Material (360C-EU-727)

Publications -- IBM System/360 Conversion Aids: The 7080 Emulator Program For The IBM System/360, Model 65, C27-6911-2, TNLS N27-1286, N27-1297, and N27-1307 ... IBM System/360 Conversion Aids: Sample Problems For IBM System/360 Emulator Programs, C27-6929-0.

Documentation -- Basic Program Material List.

Machine Readable -- Emulator Source Program is followed by Sample Problem 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:

Documentation -- Program Material List.

Machine Readable -- Emulator Source Program is available on one 9-track Magnetic Tape at 800 or 1600 bpi, or one 7-track Magnetic Tape at 800 cpi (Data Conversion feature required).

Ordering Procedures: See Branch Office Manual, DP Sales Activity section.

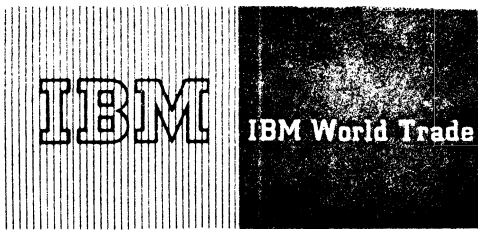
If only the form numbered manuals are required, order them from Mechanicsburg -- not from PID.

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

Magnetic Tapes (2400') may be forwarded or ordered (the program order card should accompany the tape order form).

If the track and density requirements are not indicated on back of the program order card, 9-track at 800 bpi will be forwarded.

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.



P69-43

OS/360 RELEASE 17 MAY BE ORDERED

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.
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- [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.
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OS/360 Release 17 may now be ordered. First shipments will begin this week.

Release 17 represents an important step in the continuing enhancement of OS/360. It provides:

A significant extension in functional capability

Improvements in operational characteristics

The largest number of incremental improvements in a single OS/360 release

Over 950 maintenance corrections

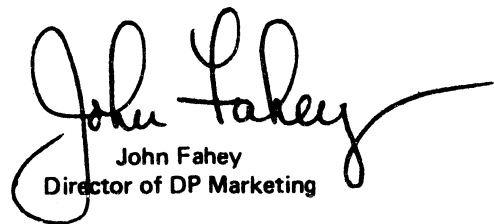
Some of the key items included are:

- Checkpoint/Restart (PCP and MVT)
- LCS Support
- MVT Model 65 Multiprocessing
- Satellite Graphic Job Processor
- MFT-RJE
- User Label Support
- SAM - Variable Record Extensions (VRE)
- Additional Shared File Support
- SYS1.ACCT Data Set for MFT/MVT
- Command Chaining
- Job Step Timing in MFT
- MVT Non-Interpreting Reader (Spool Splitter)

The composition of Release 17 is described in detail in P69-28. For those not planning to install Release 17, most of the compilers, sort/merge, and utilities from Release 17 will be supported when used on Release 15/16.

Additional information, ordering procedure and program material are on the inside pages.

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John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

Release Date: March 27, 1969
Distribution: All Areas

OS/360 MVT Model 65 Multiprocessing - The MP/65 code is included in Release 17. To take advantage of the additional time between Release 17 availability and first customer shipment of the multiprocessing system the code will undergo additional testing. Based upon this testing, changes may be made to this component.

While a multiprocessing MVT system can be generated on any suitably configured System/360, running the generated system requires a multiprocessing hardware configuration.

STAE MACRO - The correct definition for this acronym is Specify Task Asynchronous Exit.

Additional Shared File Support - This support also includes the capability to execute a system SYSGENed for Shared DASD in a Non-Shared DASD environment.

SAM - Variable Record Extensions - Support is provided in Assembler E and F, Sort/Merge, RPG and PL/I.

Type I Programming Systems Maintenance - PTF support for a given release of OS/360 is now provided for nine months beyond the replacement release. Thus, Release 15/16 will be supported with PTFs until December 24, 1969. This extended support plan is described in P68-170 and the programming section of the sales manual (P2).

Release 15/16 Publications - Publication support for Release 15/16 will be provided until Release 18. Those accounts requiring additional copies of Release 15/16 publications may order them through the use of temporary numbers. Detailed ordering procedures are provided in the Publications Release Letter #10, dated March 10, 1969 and in the Accumulated Index of Publications, N20-0360.56. The ordering procedure for Release 17 publications is the same as for prior releases.

Maintenance Improvements - The continuing emphasis on OS/360 maintenance has accomplished the following in Release 17:

Over 900 APAR's corrections have been implemented. Approximately 50 of these were incorporated in the January 14 FORTRAN H Compiler Update Package. These APAR corrections eliminate 45 Re-IPL situations. In addition, there are 132 permanent corrections for PTFs plus 72 prose restrictions removed.

Descriptions of these corrections are contained in the Maintenance Prose and System Prose of the Announcement Documentation sent to the user by PID.

PTF Distribution - PTFs are included as a trailer to the system tape containing DLIBO3 and DLIBO4 for 2311 systems. For 2314 systems the trailer is at the end of reel one if 1600 bpi or the end of reel two if 800 bpi. A description of the PTFs and instructions for their retrieval and application is provided with the system.

These PTFs represent changes which could not be fully integrated into the system because of their recent completion. The PTFs supplied with Release 17 should be reviewed as part of the FE/SE pre-system generation planning meeting to determine which should be installed. It is the responsibility of Field Engineering personnel to control selection and application of PTFs to customer systems. PTFs generated between release time and System Generation time should be obtained from local FE.

FE/SE System Generation Planning - Close cooperation between Field Engineering and Systems Engineering is vitally important, particularly when installation of a new release is planned. FE and SE representatives should meet before the system generation is performed. At this meeting all programming components to be used by the customer should be reviewed for known restrictions and PTFs. Engineering change level prerequisites must be installed. Appropriate PTFs should be installed before attempting customer operations. This review should consider all available information sources, including Installation Newsletters, SECOM and RETAIN.

The FE technical organization and the field system centers should be informed of any programming situation that prevents an OS/360 installation from advancing to Release 17.

Operational Considerations - A new section in the Memo to Users entitled "Operational Considerations" addresses differences that exist between Release 17 and previous releases. It also provides aids that can be used to circumvent potential problems and thus ease the transition to the new release. The second half of this section contains SYSGEN considerations including information on SYSGEN with an MVT driver. As preparation to moving to Release 17, an installation should carefully review this entire section.

Announcement Documentation - Documentation sent with the prepunched order card to current OS/360 users consist of:

1. Memo to Users - descriptions of all new functions in the release, plus other pertinent information about the release.
2. Maintenance Prose - descriptions by APAR number of the APARs corrected in the release.
3. System Prose, Fixed - descriptions by component of other restrictions in previous releases, now corrected.
4. Manuals - System Programmer's Guide (C28-6550-5), Operator's Guide (C28-6540-8), Storage Estimates (C28-6551-7), System Generation (C28-6554-5), and Job Control Language (C28-6539-8).

Information copies of Items 1, 2, and 3 are also sent to Branch Offices and Field System Centers.

The PLM "IBM System/360 Operating System Release 17" will be available.* This PLM outlines the current status, new features/functions, and incremental improvements to Release 17. Included are the Memo to Users, EC change levels and a list of modules changed, added

or deleted, plus lists of APARs, PTFs, and PROSE items resolved and unresolved.

*Availability will be announced in a future PRL.

Release Independent Components - The Release 17 Compilers, SORT/MERGE and Utilities can, in most cases, be used with Release 15/16. The following Release 17 components and their related libraries can be used with a Release 15/16 base system.

PL/I F	FORTRAN H *	Linkage Editor F
COBOL E	RPG	SORT/MERGE
COBOL F	Assembler E	OS/360 Utilities
FORTRAN E	Assembler F	Independent
FORTRAN G	Linkage Editor E	Utilities

The Release 17 SYS1.GENLIB must be used to generate the components and libraries. The Release 17 SRL material should be used for documentation.

The following restrictions must be observed:

1. None of the new facilities availability in the above components will provide such support on a Release 15/16 base. Examples of these situations are: Support of SAM/VRE, User Label Handling, Checkpoint/Restart, etc.
2. The FORTRAN POUND SIGN (#) OPMs available with Release 15/16 cannot be used with the Release 17 FORTRAN compilers.
3. Release 17 SORT/MERGE was designed to support Release 17 Checkpoint/Restart and, therefore, cannot be used with the Checkpoint/Restart facility of Release 15/16.

The RERUN verb of COBOL E and F was designed to support the Release 17 Checkpoint/Restart facility and, therefore, cannot be used with the Checkpoint/Restart facility of Release 15/16.

4. The following OS Utilities cannot be used on a Release 15/16 base: IEBGENR, IEBUPDTE, IEB PRINT/PUNCH, IEBCOMPRES, IEHIOSUP, MOVE/COPY.
5. The IHEDUMP facility of Release 17 PL/I has been modified to make the output BLKSIZE of the SNAP DUMP for PCP and MVT compatible with MFT. Therefore, if the Release 17 PL/I compiler is used on a Release 15/16 base system, the IHEDUMP facility may be used on an MFT system only.
6. Compilers and their associated libraries should be from the same release. Also, care must be taken when link editing previously created load modules to ensure that they do not contain library routines from previous releases.

*The Release 17 FORTRAN H Compiler is identical to the FORTRAN Update Package Compiler distributed January 14, 1969.

IEBUPDAT Utility Program - This program, although it has been largely replaced by the newer IEBUPDTE utility, can still perform some functions not yet incorporated into IEBUPDTE. For this reason, it is re-

tained as part of the system. Users may wish to include both IEBUPDTE and IEBUPDAT in their generated systems, as described in the IBM System/360 Operating System Generation, C28-6554.

Floating Point Engineering Change Support - The "tolerance code" made available initially in Release 14 FORTRAN Library is continued in the Release 17 FORTRAN Library. FORTRAN load modules must be linkage edited using a Release 14 or later FORTRAN Library to obtain the tolerance code that operates properly with or without the System/360 Engineering Change. FORTRAN H programs using the DMOD and AMOD functions must be compiled with Version II to obtain the on-line "tolerance code" for these functions.

Engineering Change Requirements - The following EC requirement pertains to Release 17.

LCS		
2050	EC 258695	ECA 218
Tape Data Checks (APAR 20057)		
2403	EC 731563*	ECA 263
2803A2	EC 732332	ECA 37
2803-2	EC 731563*	ECA 189
2804-2	EC 731803*	ECA 170
BTAM/QTAM with Terminal Adapter 3		
2701	EC 306713	ECA 86
BTAM/QTAM		
2848	EC 306531	ECA 21
	or	
	EC 307539	ECA 49
Physical Drive I.D.		
2314	EC 420919	ECA 79
2314	EC 420662	ECA 81

*Required only when expanded to 1600 bpi and when exposed to reading NRZI tape on non-dual density devices.

Reference Publications - IBM System/360 Operating System Planning for Multiprogramming with a Fixed Number of Tasks (MFT), C27-6939-4 ... IBM System/360 Operating System: COBOL Language, C28-6516-8 ... IBM System/360 Operating System Job Control Language Charts, C28-6632-5 ... IBM System/360 Operating System Sort/Merge Timing Estimates, C28-6662-1 ... IBM System/360 Operating System Tape Labels, C28-6680-1 ... IBM System/360 Operating System: FORTRAN IV (G and H) Programmer's Guide, C28-6817-0 ... IBM System/360 Operating System Planning for Conversational Remote Job Entry, C30-2010-0 ... N21-5093 to System/360 OS RPG Language, C24-3337-3.

For program material, ordering instructions, and additional program support material, see the sales manual text on the following pages.

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

ALGOL Programmer's Guide TNLs N33-8000, N33-8002, N33-8012 N33-8013	C33-4000-0
Assembler E Programmer's Guide	C28-6595-1
Assembler F Programmer's Guide	C26-3756-3*
COBOL F Programmer's Guide	C28-6380-3*
Concepts and Facilities	C28-6535-4*
Job Control Language	C28-6539-8*
Operator's Guide	C28-6540-8*
System Programmer's Guide	C28-6550-5*
Storage Estimates	C28-6551-7*
System Generation	C28-6554-5*
System Control Blocks	C28-6628-3
Messages and Completion Codes	C28-6631-6*
Programmer's Guide to Debugging	C28-6670-1*
Advanced Check Point Restart	C28-6708-0*
COBOL E Programmer's Guide	C24-5029-3*
Basic Telecommunications Access Method	C30-2004-2*
QTAM Message Control Programs	C30-2005-2*
QTAM Message Control Processing Program	C30-2003-3*
On-Line Test Executive Program	C28-6650-1*
Supervisor and Data Management Services	C28-6646-2*
Supervisor and Data Management Macro-Instructions	C28-6647-3*
Linkage Editor TNL N28-2362*	C28-6538-6*
FORTRAN E Programmer's Guide TNLs N28-0578, N28-0580, N28-0586*	C28-6603-2
Graphic Programming Services for 2250 Display Unit TNL N27-1289, N27-1301*	C27-6909-4
Graphic Programming Services for 2260 Sub-Programs	C27-6912-6*
1130 System Introduction	C26-3709-3*
FORTRAN Library Sub-Programs TNL N28-0588*	C28-6596-4*
PL/I F Comp Subroutines TNL N33-6004	C28-6590-1
1130 Programmer's and Operator's Guide TNL N33-8024*	C26-3717-3*
1130 Subroutine Library TNL N33-8022*	C26-5929-4*
Graphic Programming Services for FORTRAN IV	C27-6932-3*
Data Transmission for FORTRAN	C27-6937-1*
PL/I F Programmer's Guide TNL N33-6010*	C28-6594-4*
TESTRAN	C28-6648-1*
Remote Job Entry	C30-2006-2*
User's Guide for Job Control From the 2250 Display Unit TNL N27-1303*	C27-6933-1
SGJP User's Guide	C27-6938-1*
Sort/Merge	C28-6543-5*
Maintenance	C27-6918-1*
Utility Programs	C28-6586-9*

* 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 PID.

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

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

For the 2311 User -- On two 2400 foot reels of magnetic tape, either 9-track (800 bpi), or two 7-track (800 cpi Data Conversion feature

required), or one 9-track magnetic tape (1600 bpi), or four 1316 Disk Packs.

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

ORDERING INSTRUCTIONS

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 17 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.

Special Note for 2314 Direct Access Storage Facility Users

Tapes will be in the dump/restore format. Users who order the 2314 Starter System should indicate 2314 on the back of the program order card.

A 2314 user having two or more 2311 Disk Drives but not 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
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 E	360S-FO-092 Note 1
FORTRAN G	360S-FO-520 Note 1
FORTRAN H	360S-FO-500 Note 1
FORTRAN 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	360S-AL-531
ALGOL Library	360S-LM-532 Note 1
SERO, SER1, and EREP for Model 40	360S-DN-527
Report Program Generator	360S-RG-038
MVT	360S-CI-535
Satellite Graphic Job Processor	360S-RC-543*
1130/360 Data Transmission	360S-LM-542*
On-Line Test Executive Program	360S-DN-533
Graphic Subroutine Program	360S-LM-537
Graphic Job Processor	360S-RC-541
Linkage Editor F	360S-ED-521
Recovery Management Mod/65	360S-DN-539
Remote Job Entry	360S-RC-536

All Components have changed with this release except ALGOL 360S-AL-531.

* Component new with this release.

† Component not supported for operation in an MVT (360S-CI-535) environment.

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

The following three components have been deleted from release 17:
360S-DN-528, 360S-DN-529, and 360S-DN-530.

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

ADDITIONAL PROGRAM SUPPORT MATERIAL

Program Logic Manuals (available from the IBM Distribution Center, Mechanicsburg)

COBOL E	Y24-5009-1, TNLS Y28-6385 Y28-6393
ALGOL F Compiler	Y33-8000, TNLS Y33-8001, Y33-8003
Assembler E	Y26-3598
Assembler F	Y26-3700
Checkpoint/Restart	Y28-6672-1
RPG	Y26-3704, TNL Y21-0006
Graphic Problem Oriented Routines	Y27-7110-1
Graphic Access Method	Y27-7113-3
MFT Control Program	Y27-7128-3, TNLS Y28-2349,
Graphic Programming Services for FORTRAN	Y27-7152, TNLS Y27-7163, Y27-7177
Graphic Job Processor	Y27-7159, TNL Y27-7178
Model 65 Recovery Management	Y27-7155-1
COBOL F	Y28-6382-2
Sort/Merge	Y28-6597-3
FORTRAN E	Y28-6601-2, TNLS Y28-6383, Y28-6819, Y28-6827
Sequential Access Method	Y28-6604-1, TNLS Y26-8010, Y28-8011
Introduction to Control Program Logic	Y28-6605-4
Catalog Management	Y28-6606, TNLS Y26-8013, Y26-8020
Direct Access Device Space Management	Y28-6607-4
Input/Output Support (OPEN/CLOSE/EOV)	Y28-6609-2
Linkage Editor E	Y28-6610-2, TNLS Y28-2301, Y28-2356
Linkage Editor F	Y28-6667, TNL Y28-2357
TESTRAN	Y28-6611, TNL Y28-2371
Fixed Task Supervisor	Y28-6612-4
P C P Job Management	Y28-6613-3
Utilities	Y28-6614-4
Guide to Model 91	Y28-6665-0, TNL Y28-2290
Input/Output Supervisor	Y28-6616-4, TNL Y28-2363
Basic Direct Access Method	Y28-6617-3, TNL Y26-8019
Indexed Sequential Access Method	Y28-6618-2
FORTRAN G	Y28-6638-1, TNL Y28-6826
FORTRAN H	Y28-6642-3
On-Line Test Executive	Y28-6651-1
MVT Logic Summary	Y28-6658-2
MVT Supervisor	Y28-6659-3
MVT Job Management	Y28-6660-3
Initial Program Loader and Nucleus	
Initialization Program	Y28-6661-1
PL/I (F)	Y28-6800-3, TNLS Y33-6002, Y33-6004
PL/I (F) Subroutine Library	Y28-6801-4
Update Analysis	Y28-7106
Basic Telecommunications Access Method	Y30-2001-2, TNLS Y30-2511, Y30-2518
QTAM	Y30-2002-2
Remote Job Entry	Y30-2005-2
OS/360 Rel 17 Consolidated Document	Y28-6681-1*
System/360-1130 Date Transmission	
for FORTRAN	Y27-7161-0
System/360 Job Processing from a Remote	
1130/22 Subsystem	Y27-7166-0

Program Listings: Operating System/360 program listings are available on microfiche from the IBM Corporation, Department 906, Highway 52 and Northwest 37th Street, Rochester, Minnesota 55901 in the following groups:

Program Listing Type	Group Code
S/360 OS (Primary Control Program, Primary Data Management, Basic Direct Access Method, Indexed Sequential Access Method, OS/360 Utilities, Independent Utilities, SER0 and SER1, Recovery Management, BTAM/QTAM, MVT, On-Line Test)	1010
S/360 OS Remote Job Entry	1015
S/360 OS ALGOL Compiler, ALGOL Library	1025
S/360 OS Assembler E	1030
S/360 OS Assembler F	1035
S/360 OS COBOL E	1040
S/360 OS COBOL E Library	1048
S/360 OS COBOL F, COBOL F Library	1045
S/360 OS FORTRAN E	1050
S/360 OS FORTRAN G	1052
S/360 OS FORTRAN H	1055
S/360 OS FORTRAN Library	1058
S/360 OS PL/I F	1060
S/360 OS PL/I F Library	1068
S/360 OS Linkage Editor E	1070
S/360 OS Linkage Editor F	1075
S/360 OS Sort/Merge	1080
S/360 OS TESTRAN	1085
S/360 OS Graphic Programming Services, Graphic Job Processor, Graphic Subroutine Program	1090
S/360 OS RPG	1095

*Availability will be announced in a future PRL.

Optional Program Material: The Optional program material is distributed with a condensed Symbolic Library. It is available from PID on 9-track magnetic tape (800 or 1600 bpi) or 7-track magnetic tape (800 cpi) with the Data Conversion feature. Magnetic tape is the only distribution media.

The symbolic modules for the IBM Operating System/360 are arranged in sequential data sets by component (except when one component exceeds 70,000 statements). The data sets are distributed on unlabeled magnetic tapes that may contain one or more files each. Each file is formatted as the SYSIN data set for IEBUPDAT. The records are 80 character card images blocked by 14,400 bytes. The creation of symbolic libraries on disk requires the use of IEBUPDAT to process one of the tape files as SYSIN.

The following is an example of the JCL used to create a symbolic library.

```
// A JOB MSGLEVEL = 1
// EXEC PGM = IEBUPDAT, PARM = NEW
// SYSPRINT DD SYSOUT = A
// SYSUT2 DD (parameters describing output PDS)
// SYSIN DD DSN = TAPE, VOLUME = SER = TAPEIN, UNIT = 2400, DISP = OLD,
// LABEL = (note 1, NL), DCB = (LRWL = 80, RECFM = FB,
// BLKSIZE = 14400)
```

Note 1: The sequence number of the desired file must be placed in the LABEL parameter.
Note 2: The procedure for including IEBUPDAT in a system is described in Installation Newsletter 67-20.

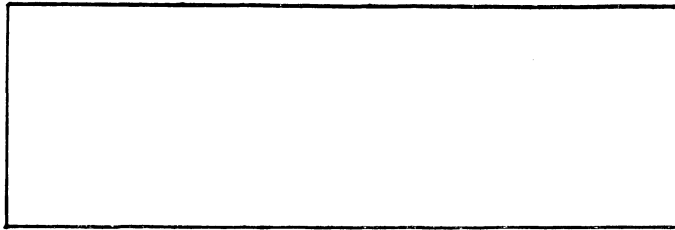
The SYSUT2 data set must be a Partitioned Data Set. The space allocated to the PDS must be calculated considering the blocking factor desired. When creating a 2311 Partitioned Data Set, many large files will not fit on one disk unless 3360 is used as the blocking factor.

The requester may forward or order magnetic tapes following the current ordering procedures in the Branch Office Manual, DP Sales Activity. The external tape label must show the distribution volume number as well as the information required under the current procedures.

Distribution Volume Number	Program Component Name	Program Number
1	Assembler E	360S-AS-036
	Assembler F	360S-AS-037
	Linkage Editor E	360S-ED-510
	Linkage Editor F	360S-ED-521
	ALGOL	360S-AL-531
	ALGOL Library	360S-LM-532
	Report Program Generator	360S-RG-038
2	COBOL E	360S-CO-503
	COBOL E Library	360S-LM-504
	COBOL F	360S-CB-524
	COBOL F Library	360S-LM-525
	1130/360 Data Transmission	360S-LM-542*
3	FORTRAN E	360S-FO-092
	FORTRAN G	360S-FO-520
	FORTRAN H	360S-FO-500
	FORTRAN Library	360S-LM-501
4	PL/I F	360S-NL-511A
		360S-NL-511B
		360S-NL-511C
		360S-NL-511D
		360S-NL-511E
		360S-NL-511F*
6	PL/I F Subroutine Library	360S-LM-512A
		360S-LM-512B
7	TESTRAN	360S-PT-516
	Index Sequential Access Method	360S-IO-526
	Graphic Subroutine Program for FORTRAN	360S-LM-537
	Basic Direct Access Method	360S-DM-509
	Basic Telecommunications Access Method	360S-CQ-513
	Queued Telecommunications Access Method	360S-CQ-519
8	Graphic Program Services	360S-IO-523
	Primary Control Program	360S-CI-505A
		360S-CI-505B
		360S-CI-505C
9	Primary Data Management	360S-DM-508A
		360S-DM-508B
	independent Utilities	360S-UT-507
	SERO, SER1, EREP	360S-DN-527
	On-Line Test Executive Program	360S-DN-533
	Model 65 Recovery Management	360S-DN-539
10	MVT	360S-CI-535A
	SGJP	360S-RC-543*
	MACRO	360S-RC-536
	Remote Job Entry	360S-RC-541
	Graphic Job Processor	360S-SM-023A
11	Sort/Merge	360S-SM-023B
		360S-SM-023C
	OS/360 Utilities	360S-UT-506

* Denotes new with this release. All others have changed with this release.

Alphabetic suffix denotes separation of a single component into separate files. When ordering the component the alphabetic suffix should not be used. See GI 14.2 for complete information before ordering additional program support material.



To order missing Programming pages, circle the page numbers of the required pages on this sheet, fill in your name, position title, and address, and send the form to:

DP Publishing Services
IBM World Trade Corporation
1000 Westchester Avenue
White Plains, New York 10604

Requests for more than twenty pages require management approval.

	CIRCLE									
Programming	1	Mar 69 Rev	P69-33	TOS/360	360M.1	Aug 68 Rep	P68-115			
	3	Mar 69 Rep	P69-45		360M.3	Aug 68 Rep	P68-115			
	5	Mar 69 Rev	P69-45		360M.5	Mar 69 Rev	P69-33			
	7	Mar 69 Rep	P69-45		DOS/360	360N.1	Mar 69 Rep	P69-33		
	9	Dec 68 Rev	P68-162			360N.3	Mar 69 Rev	P69-45		
	11	Mar 69 Rev	P69-45			360N.5	Mar 69 Rev	P69-45		
	13	Mar 69 Rev	P69-45			360N.7	Mar 69 Rev	P69-45		
	15	Jan 68 Rev	P68-12			360N.9	Mar 69 Rev	P69-45		
	17	Jan 68 Rev	P68-12			360N.11	Mar 69 Rep	P69-45		
	19	Jun 68 Rev	P68-94		360N.13	Mar 69 Rev	P69-33			
21	Dec 68 Rev	P68-162	BPS/360	360P.1	Dec 68 Rev	P68-162				
System/360 Application Programs	360A.1	Dec 68 Rev		P68-162	360P.3	Dec 68 Rev	P68-162			
	360A.3	Dec 67 Rep		P67-137	360P.5	Dec 68 Rev	P68-162			
	360A.5	Sep 67 Rep		P67-97	360P.7	Dec 68 Rev	P68-162			
	360A.7	Mar 69 Rep		P69-33	360P.9	Dec 68 Rev	P68-162			
	360A.9	Mar 69 Rev		P69-33	360P.11	Dec 68 Rev	P68-162			
	360A.11	Oct 68 Rep		P68-135	360P.13	Dec 68 Rev	P68-162			
	360A.13	Oct 68 Rep		P68-135	360P.15	Dec 68 Rev	P68-162			
	360A.15	Oct 68 Rep		P68-135	360P.17	Dec 68 Rev	P68-162			
	360A.17	Mar 69 Rev		P69-33	360P.19	Dec 68 Rev	P68-162			
	360A.19	Mar 69 Rev	P69-33	OS/360	360S.1	Dec 68 Rev	P68-162			
360A.21	Mar 69 Rep	P69-33	360S.3		Dec 68 Rev	P68-162				
360A.23	Mar 69 Rep	P69-33	360S.5		Dec 68 Rev	P68-162				
360A.25	Mar 69 Rev	P69-33	360S.7		Dec 68 Rev	P68-162				
360A.27	Mar 69 Rep	P69-33	360S.9		Dec 68 Rev	P68-162				
360A.29	Oct 68 Rep	P68-135	360S.11		Dec 68 Rev	P68-162				
360A.31	Oct 68 Rep	P68-135	360S.13		Dec 68 Rev	P68-162				
360A.33	Mar 69 Rep	P69-33	360/20		360T.1	Mar 69 Rev	P69-45			
360A.35	Mar 69 Rep	P69-33			360T.3	Mar 69 Rev	P69-45			
360A.37	Mar 69 Rev	P69-33			360T.5	Mar 69 Rev	P69-45			
360A.39	Mar 69 Rev	P69-33		360T.7	Mar 69 Rev	P69-45				
360A.41	Jun 68 Rep	P68-86		360T.9	Mar 69 Rev	P69-45				
360A.43	Mar 69 Rep	P69-33		360T.11	Mar 69 Rev	P69-45				
360A.45	Oct 68 Rev	P68-135		1130	360V.1	Mar 69 Rep	P69-33			
360A.47	Mar 69 Rep	P69-33			360V.3	Mar 69 Rep	P69-33			
360A.49	Dec 68 Rev	P68-162			1400	1450.1	Oct 68 Rev	P68-135		
360A.51	Dec 68 Rep	P68-162				1800	1800.1	Feb 68 Rev	P68-23	
360A.53	Mar 69 Rep	P69-33	1800.3				Jul 68 Rev	P68-101		
360A.55	Mar 69 New	P69-33	1800.5				Apr 68 Rev	P68-51		
BOS/360	360B.1	Oct 68 Rev	P68-135				BOS/360	360B.1	Oct 68 Rev	P68-135
	360B.3	Oct 68 Rev	P68-135					360C.1	Feb 68 Rep	P68-23
System/360 Conversion Programs	360C.1	Feb 68 Rep	P68-23					360C.3	Mar 69 Rev	P69-33
	360C.3	Mar 69 Rev	P69-33					360C.5	Mar 69 Rev	P69-33
	360C.5	Mar 69 Rev	P69-33	360C.7				Mar 69 Rev	P69-33	
	360C.7	Mar 69 Rev	P69-33	360C.9				Feb 68 Rev	P68-23	
	360C.9	Feb 68 Rev	P68-23	360C.11	Feb 68 New			P68-23		
	360C.11	Feb 68 New	P68-23	360C.13	Mar 69 Rep	P69-45				
360C.13	Mar 69 Rep	P69-45	360/44	360F.1	Feb 68 Rev	P68-28				
360/44	360F.1	Feb 68 Rev		P68-28	360F.3	Aug 68 Rev		P68-111		
	360F.3	Aug 68 Rev	P68-111	360/67	360G.1	Mar 68 Rev	P68-42			
	360/67	360G.1	Mar 68 Rev		P68-42	360G.3	Mar 69 Rev	P69-33		
360G.3		Mar 69 Rev	P69-33		360G.5	Mar 69 Rev	P69-33			
360G.5		Mar 69 Rev	P69-33							

(Continued on back)

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Cancels: P69-33
Attachments [17]: P 3, 5, 7, 11, 13 ... P 360C.13 ... P 360N.3, 5, 7, 9, 11, ... P 360T.1, 3, 5, 7, 9, 11
Release Date: March 28, 1969
Distribution: All Areas

9000

9011	Mar 68 Rev	P68-42A
9013	July 68 Rep	P68-94
9015	July 68 Rep	P68-94
9019	Jan 68 Rep	P68-6A
9021	Jun 68 New	P68-82A
9023	Aug 68 Rep	P68-115
9025	Oct 68 New	P68-143A
9027	Dec. 68 Rev	P68-169C
9029	Dec. 68 New	P68-169B
9031	Dec 68 New	P68-169E
9033	Dec 68 New	P68-169D
9035	Feb 69 Rev	



P69-46

PROGRAM ANNOUNCEMENT

**MEDICAL INFORMATION SYSTEM
PROGRAMS (TYPE II)****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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
- [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.**

This announcement provides additional detail regarding the special release procedure for MISP. It supercedes P68-143; therefore, it should be read in its entirety. Specifications of MISP are unchanged and are described on the back. Customers affected should be notified immediately.

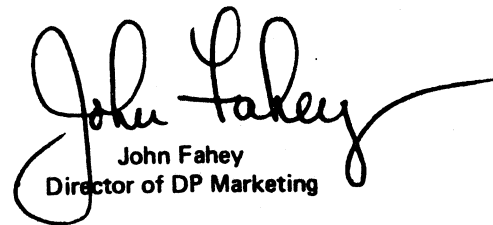
The controlled release plan for MISP announced in letter P67-128 will continue in effect.

The following steps must be completed in order for a customer to receive MISP:

1. The required configuration must be installed or on order.
2. An installation plan must be committed.
3. A letter of understanding must be endorsed.

The purpose of these requirements is to assure awareness of the facilities provided by MISP and the extent of the commitment needed to install a system for patient care applications.

A copy of the letter of understanding may be obtained from the Program Administrator, Hospital Information Systems, Medical Industry, GEM Region. After the customer and the branch office have endorsed the letter of understanding, it and the documentation of steps 1 and 2 above should be sent to the Program Administrator, HIS, Medical Industry, GEM Region. He will then provide the branch office with the Program Authorization letter needed to order MISP from the Program Information Department.



John Fahey
Director of DP Marketing

FOR IBM INTERNAL USE ONLY

Published by DP Sales Publishing Services, WTHQ

Release Date: March 24, 1969
Distribution: All Areas

P69-46

Medical Information System Programs (MISP): A special release procedure for MISP is in effect.

MISP is released under direct control of Industry Marketing - Medical. The following steps must be completed in order for a customer to receive MISP.

1. The required configuration must be installed or on order.
2. An installation plan must be committed.
3. A letter of understanding must be endorsed.

The purpose of these requirements is to assure awareness of the facilities provided by MISP and the extent of the commitment needed to install a system for patient care applications.

A copy of the letter of understanding may be obtained from the Program Administrator, Hospital Information Systems, Medical Industry, GEM Region. After the customer and the branch office have endorsed the letter of understanding, it and the documentation of steps 1 and 2 above should be sent to the Program Administrator, HIS, Medical Industry, GEM Region. He will then provide the branch office with the Program Authorization letter needed to order MISP from the Program Information Department.

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 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. A utility to construct table for the Interpretive Program support of the 2760 Optical Image Unit will be available later (see note below).

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 Teleprocessing 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 serviceability requirements and specific uses of MISP in their installations. This item should receive particular emphasis in the Marketing Assessment review.

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 held nationally at central locations, and dates are 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 and use BTAM (including the communication serviceability facilities for the 2740/2760) for Teleprocessing control. (see note below).

For background jobs the user can use any object program or job (RPG, Sort/Merge, etc.) supported by DOS/360 that does not require the timer facility, other than time of day, and does not use the MISP Executive Programs. In a minimum system (2030F with 65,536 bytes and with an 8,192 byte supervisor and 20 terminals) the background partition is 10,240 bytes (minimum allowable).

Minimum System Requirements: System/360 Model 2030F (2040G with 2760 support - see note below), Interval Timer (#4760), Selector Channel (#6960), Storage Protection (#7520), Decimal Arithmetic (#3237), 1051 Attachment (#7915) ... 1442 Card Read Punch 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 or a 2314 Direct Access Storage Facility Model 1 and 2316 Disk Packs 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, 2740 Model 1 equipped with Record Checking (#6114) and 2760 Attachment (#8301) with a 2760 Model 1 Optical Image Unit (see note below) or 1050 terminals as described below.

The minimum processor (Model 2030F, 64K) is intended to provide a suitable growth program for a customer installation (from accounting to limited Teleprocessing and HIS testing, and leading to an operational HIS). Most customers will require a 128K, Model 2040G processor for an operational HIS; an operational HIS should include additional on-line error recording and error recovery facilities. These facilities, such as the 2314 DASF, cannot be included in a 64K, Model 2030F processor with 20 terminals, a 10K background program area and an 8K supervisor. Consult your Medical Industry Marketing Representative for the specific Trade-offs for your customer before contacting the customer. Individual terminal configurations use 1051 Control Unit with special features (See note below). Most 1050 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 Key mats (RPQ E38484). Depending on the Particular terminal location, a 1052 Printer-Keyboard or 1053 Printer will also be required. The suggested laboratory configuration includes a 1093 Programmed Keyboard Model 2 (RPQ E38484) in addition to a 1092. The suggested admitting terminal includes a 1056 Card Reader Model 2, a 1092 (RPQ E38484), and a 1052. 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 the 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 throughput 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.

Note: Programming support for the 2760 Optical Image Unit will be available June 15, 1970.

(to be typed on Branch Office Stationery)

Date
 Customer Name
 Customer Title
 Customer Location

Dear

The installation of your hospital information system is a sophisticated and complex undertaking and should be approached with thorough preparation and commitment to the objectives on the highest administrative level. Since there is potential impact on all phases of hospital operation, particularly in the highly sensitive area of patient care, your effort must be launched with a full understanding of the implications. Although the Medical Information System Programs (MISP) provide many facilities and wide flexibility, there are a number of tasks and functions that must be evaluated and performed by you to make your installation a success. It is expected that under the new system, procedures and environment may be different and an adaptation period will be necessary to compensate for any changes.

Your request for the use of the Medical Information System Programs (MISP) can be granted contingent on your understanding and agreeing that:

System Study. The day-to-day operations of each hospital area should be analyzed in conjunction with the department head and personnel and the master file data for that area accumulated together with the design of system inputs, outputs, and reports.

Education. An active education program should be undertaken at all levels so that the hospital people will understand the purpose and effect of the system. In addition, those people operating the equipment should receive supplemental training to ensure entry, storage, and retrieval of only accurate medical data.

Application Programming. Consistent with the requirements of the MISP environment and using the MISP facilities, you must write application programs tailored to specific needs in each area. Many of these programs are being developed at other hospitals and some of them may be applicable in your environment.

People and Places. Of critical importance is the selection of trained computer systems people who will install, operate, and maintain the system for the hospital. Central system, terminal, and communication line needs must be analyzed and defined. Corresponding sites for central and terminal system requirements must also be defined and either allocated or constructed.

Side 1 of 2

Procedures. New procedures will be required after system installation. Documentation of these procedures in conjunction with the education of the hospital people will allow the development of procedure and equipment operation handbooks and setting the desired schedule of machine operations.

Parallel Operation. Once the programs are developed, the hospital should run them in parallel with the current operation to ensure that all objectives are being met.

Backup and Recovery. Procedures to run the hospital with no decrease in patient service should be developed by you in the event of system unavailability or data destruction. In addition, recovery programs should be written to rapidly process the information accumulated during this time so that normal operation is achieved as soon as possible after system restart.

Response. As in any teleprocessing system, the speed of operation is dependent on a number of variables that are peculiar to the specific installation. Among these factors are the number, location, and configuration of terminal devices, the construction and complexity of application programs and areas, programming techniques, number and size of reports, transaction volumes and number of beds, disk storage layout, etc.

IBM will provide you complete current versions of the MISP Executive Control System, the MISP Library Programs and the MISP Utility Programs with their associated documentation. These programs do not comprise a hospital information system, but are a framework upon which you may develop your own system.

Because of the special requirements outlined above, MISP is a Type II Limited Distribution program and is not generally available. IBM makes no warranty and assumes no liability for the program's performance. IBM support of the "Limited Distribution Program" MISP and related documentation may be withdrawn by IBM, at which time maintenance of the program would be withdrawn.

All requests for assistance and additional information, as well as your evaluation and suggested changes, should be directed to (IBM person name, Branch Office name and location).

If you agree to the foregoing, please sign, indicating your position and authority to sign on behalf of (name of the customer) and return to (IBM person name, Branch Office name and location).

Accepted By: _____
 Customer Name _____ Medical Industry Manager

Position: _____

Customer Installation Number: _____

Date: _____
 Branch Manager

cc: APS Manager, DPD HQ; Medical Industry Manager;
 DPD HQ Manager of Development Technical Services

**LINEAR PROGRAMMING SYSTEM/360
(LPS/360) AVAILABLE (TYPE II)****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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- [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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
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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.**

Linear Programming System (360A-CO-18X) is now available. LPS/360 processes linear programming problems of DOS/360 users and solves them in a simple, easy-to-use and easy-to-understand manner. The system is the System/360 version of the LP-MOSS/1130 program.

Description: Mathematical Optimization is any mathematical technique for determining the optimum use of various resources - such as capital, raw materials, manpower, plant, or other facilities - to attain a particular objective (for example, minimum cost or maximum profit) when there are alternate uses for the resources. Linear programming is the most widely used of these techniques. It is used to allocate, assign, schedule, select or evaluate the uses of limited resources for such jobs as blending, mixing, cutting, trimming, bidding, pricing, purchasing, planning, and the transportation and distribution of raw materials and finished products.

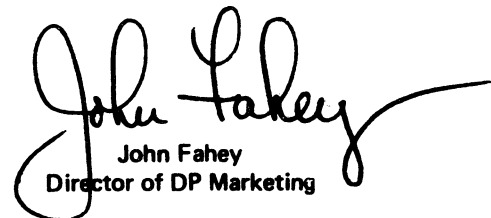
LPS/360 processes up to 200 row problems on 32K System/360s and up to 1500 row problems on 64K and larger System/360s. The capacity of 1500 rows is an increase from the initially announced maximum of 700 rows for 64K and larger System/360s.

For installations at which either LPS/360 (DOS) or MPS/360 (OS) could be used (64K or larger), the capacity and the greater ease of use of LPS must be weighed against the greater efficiency of MPS. See the Special Sales Information on the reverse side.

Preliminary copies of the System and the Compilation/Assembly Listing Manuals are available from Industry Development - Scientific Applications, DPD HQ. Their availability from Mechanicsburg will be announced in a PRL.

Additional Program Material ... (source code and listings) for certain computational subroutines are IBM Confidential. All requests for this material must be sent to the Industry Development Manager - Scientific Applications, DPD HQ.

See the reverse side for details, or contact your Regional Scientific Marketing representative for further information.



John Fahey
Director of DP Marketing

Published by DP Sales Publishing Services, WTHQ

FOR IBM INTERNAL USE ONLY

Release Date: March 28, 1969
Distribution: All Areas

Linear Programming System/360 (LPS/360): Provides the System/360 DOS user with a simple, easy to understand, easy to use means of solving linear programming problems (360A-C0-18X).

Description: Mathematical optimization is any mathematical technique for determining the optimum use of various resources - capital, raw materials, manpower, plant, or other facilities - to attain a particular objective such as minimum cost 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 such jobs as blending, mixing, cutting, trimming, bidding, pricing, purchasing, planning, and the transportation and distribution of raw materials and finished products.

LPS/360 processes up to 200 row problems on a 32K System/360 and up to 1500 row problems on 64K and larger System/360s. The number of columns is limited only by the amount of disk space available.

Features: Large problem capacity (1500 rows on a 64K System and 200 rows on a 32K system) ... simple flexible processing control (optional conditional control of processing sequence) ... simple problem definition (easy-to-use format and extensive data maintenance functions, specification of 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 (and) 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 relationships for all variables) ... extensive checking (input check for duplicate entries, solution processing check to test for need of early inversion and automatic solution check).

Use: LPS/360 is governed by procedure control cards which specify the solution sequence. Input data may originate on cards and be stored on disk for subsequent processing. Several problems may be stored on the disk and updated, rerun, or combined. For example, a corporate model can be formed from divisional models; or a total production plan, from the plans for individual products.

Reports may be on cards or printer. Output options include a full solution report, comprehensive solution analysis and parametric analysis reports.

Special Sales Information: The design emphasis of LPS/360 is on ease of learning, ease of use, large problem capacity on a small computer, and use under DOS/360.

The design goals of MPS/360 (360A-C0-14X) are high performance on large computing systems and use under OS/360.

For those installations at which either LPS/360 (DOS) or MPS/360 (OS) could be used (64K systems or larger), the greater efficiency of MPS must be weighed against the greater problem size capacity and the ease of use of LPS.

MPS will not operate on a 32K System/360. However, on a 64K Model 30, typical LP problems in the size range which can be handled by MPS (less than 300 rows) will run as much as three times faster with MPS than with LPS. On the other hand, LPS is capable of handling problems with as many as 1500 rows.

Since the relative efficiency of MPS increases with faster hardware and larger core size, it is recommended that MPS/360 be used by customers with a 128K Model 40 or larger. It is also recommended that LPS/360 be used by customers with little linear programming experience.

Customer Responsibility: A thorough knowledge of DOS/360 is required for installation of LPS. Since the LPS program documentation is written in tutorial fashion, little mathematical background or linear programming experience is needed.

Programming Systems: LPS/360 operates under control of System/360 Disk Operating System (DOS). The source language is primarily FORTRAN IV (level E) with some Assembler (level F) routines.

Machine Configuration: A minimum configuration for LPS/360 includes a System/360 Model 25E (32K) with Floating Point Feature (#4427), a 1052 Printer-Keyboard console, a card reader (1442, 2501, 2520, or 2540), a card punch (1442, 2520, 2540), a printer (1403 or 1443), and a 2311 Disk Storage Drive. A 2400 series tape unit and/or an additional 2311 is required for installing and maintaining LPS/360 but not for actual program operation. Also, a 2400 series tape drive is required for compiling and assembling the distributed source code.

The System/360 recommended for best performance and simplest operation includes a System/360 Model 30F (64K) with Floating Point Feature (#4427), a 1052 Printer-Keyboard console, a 2540 Card Read Punch, a 1403 Printer, two 2311 Disk Storage Drives (or one 2314 Direct Access Storage Facility), and a 2400 series tape unit.

Users of the 64K version of LPS must have 50K bytes of core available for program and data area; for the 32K version of LPS, users must have 26K bytes of core available (K=1024).

Basic Program Material:

Publications* -- Application Directory ... Program Description Manual (H20-0607) ... Operations Manual (H20-0611).

Machine Readable** -- The basic MRM for the 2311 is available on one 2400' reel of tape at 800 or 1600 bpi, or one 7-track 2400' reel of tape at 800 cpi (Data Conversion feature required), or one 1316 disk pack.

The basic MRM for the 2314 is available on one 9-track 2400' reel of tape at 800 or 1600 bpi, or one 7-track 2400' reel of tape at 800 cpi (Data Conversion feature required).

When ordering on tape if the resident system is not specified, 2311 will be forwarded.

Optional Program Material:

Machine Readable** -- The source decks (except IBM Confidential routines) are available on one 9-track 2400' reel of tape at 800 or 1600 bpi or on one 7-track 2400' reel of tape at 800 cpi (Data Conversion feature required).

Ordering Procedures: See DP Sales Activity section of the Branch Office Manual.

* If only the Form numbered manuals are required, order from the IBM Distribution Center, Mechanicsburg - not PID.

** Magnetic tapes (2400') may be forwarded or ordered (the program order card should accompany the tape order form). The 1316 disk pack must be forwarded.

If the track and density requirements are not indicated on the program order card, 9-track at 800 bpi will be forwarded.

Source code and listings for certain computational subroutines are IBM Confidential. All requests for this material must be sent to the Industry Development Manager - Scientific, DPD HQ.

Additional Program Support Material: Application Description Manual (H20-0513-1), Preliminary Copies of the System Manual and the Compilation/Assembly Listings Manual are available from Industry Development - Scientific Applications, DPD HQ, on request.

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 (E20-0164) ... Gasoline Blending (E20-0168) ... LP-MOSS/1130 Program Reference Manual (H20-0345).

For further information contact your regional Scientific Marketing Representative.



TSS/360 FUNCTIONAL EXTENSIONS ANNOUNCED

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Published by DP Sales Publishing Services, WTHQ

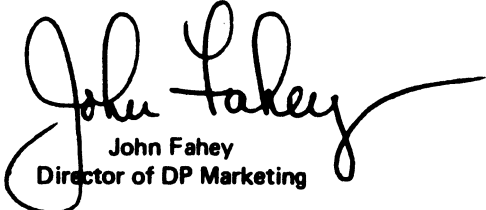
The January, 1969, release of Version 4 of TSS/360 provides a firm operating base for performance and reliability evaluations, and we plan to extend its use in order to reflect maximum user experience in subsequent Programming Releases for TSS/360. In accordance with this plan, VAM II and Duplex Support will be available 2Q69.

In conjunction with our efforts in improving system capability, the following functions will be added to TSS/360:

1. A PL/I F Compiler will be available 3Q70. It will operate in 24 bit addressing mode and will be compatible with OS PL/I F except for multitasking, SORT/MERGE, check-point, and the regional I/O and QTAM facilities of the I/O environment option.
2. Support for Remote Job Entry via IBM 2780-1 Work Stations will be available 2Q70. Job specifications will use the TSS/360 Command Language with some additional commands to support RJE. Only BSC (binary synchronous communication) lines will be supported. Although both switched and non-switched networks may be used, only point-to-point networks will be supported. Support will be provided for the 2780-1 with EBCDIC code only.

With the recent TSS performance improvements, IBM considers that the TSS programming system can be used in a production environment after August 31, 1969. While adding RJE and PL/I functions to TSS, IBM wishes to indicate clearly that it does not currently plan on or project extensions of the TSS programming system into other functional areas. However, we will continue to pursue the current system in the areas of performance, reliability, and human factors.

Complete details are on the inside pages.



John Fahey
Director of DP Marketing

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Distribution: All Areas

P69-44
NOT ISSUED

2780-1 Remote Job Entry for TSS/360

The 2780-1 Remote Job Entry (RJE) facility extends the TSS/360 central batch and BULKIO processing capabilities efficiently and conveniently to remote work stations. The RJE support will be available 2Q70.

Description -- RJE operates the 2780-1 card reader and printer similarly to central on-line devices used for batch input and output. The TSS/360 user at an RJE station may enter batch jobs in the same format as that used at the central on-line reader. He can use the DATASET card facilities to create data sets and LOGON and LOGOFF cards to delimit the executable non-conversational SYSIN data sets. Output will be printed at the originating station unless he chooses to specify another station in his PRINT commands. SYSOUT data sets will always be returned to the originating station unless the central operator intervenes.

One restriction is imposed upon the remote user. If he requests printing of a data set residing on private storage, it will always be printed on a central on-line printer. However, he may precede his PRINT command with a VAM to VAM data set copy or a CDS command in order to move the data set from private to public storage. In this case, the data set in public storage can be printed at the remote station.

Hardware Requirements -- The 2780-1 Remote Job Entry provides support for 2780 Model 1 terminals. The 2780-1 will interface with the central 360/67 through the 2701 Data Adapter Unit with a Synchronous Data Adapter Type II attached. The 2780 Model 1 is equipped with a printer and card reader. Only EBCDIC code is supported.

Private line telephone facilities (dedicated lines) rated at 2400 bps and switched telephone facilities (dial-up) rated at 2000 bps are both supported on a point-to-point basis. The 2400 bps line is used in conjunction with a Western Electric 201A3 data set or equivalent. Both two and four wire lines are available as dedicated lines (this, however, does not imply full duplex operation). Only two-wire lines are available with dial-up capabilities.

Transparency mode is supported when reading cards allowing a full 256 character set on input. Normal mode transmission is implemented in order to allow the stripping off of trailing blank characters from print records, thus providing for a more efficient operation. The 144 character print buffer and 63 character print bar are required. The 2780 must be equipped with the Extended Retry Feature.

A detailed description of the requirements of the 2780-1 and 2701 and their support may be found in the TSS/360 Programming Pages of the Sales Manual.

Features -- The following are features of 2780-1 Remote Job Entry for TSS/360:

1. An error checking and recording capability is provided.
2. All background facilities of TSS are available to the RJE user. Three additional control cards for remote station operation are required: to identify the RJE station (RJSTART), to continue interrupted output (CONTINUE) and to disconnect the station (RJEND).
3. Output generated as a result of RJE input will automatically be routed back to the point of origin unless the operator intervenes or the RJE user specified a different station in his PRINT command. A new Station ID parameter has been specified in the TSS/360 PRINT command which allows the RJE user to specify that his output be routed to a central on-line printer or to another RJE station. This new PRINT parameter also allows a user connected at a conversational terminal to direct a data set to a remote station.
4. The computer system operator is provided with the ability to redirect output to a local on-line printer or to another remote station if a station experiences trouble.
5. The RJE user may temporarily interrupt a printer operation at his station, introduce card input and then continue the print job from the point of interruption.
6. A new Administrator Command, JOINRJE, is provided in the TSS/360 Command System. Remote stations must be joined via the JOINRJE command in order that their Station IDs can be validated. Thus, the user is assured of receiving his output, and the system is protected from unauthorized users.
7. Acknowledgement of all SYSINs and data sets received from the RJE Station, including the Batch Sequence number assigned to SYSINs, will be listed at the remote station at the end of each transmission. If a print job was in process, the acknowledgements will be printed when the print job is completed. If there is a station malfunction, the acknowledgements will be saved until the next time the station is active.
8. A variation of the SETUR function of MSAM is provided which will allow the RJE user to specify the form type he requires. A message is sent to the Remote Station to which the remote operator must reply with a CONTINUE card after the correct form is placed in the

printer and properly aligned. The alignment must be done at the 2780-1.

9. The BEGIN option is specified for the CONTINUE card to cause a job to be reprinted from the start of the data set when requested.

Programming Systems -- TSS/360 RJE for 2780 uses a subset of the RJE control cards and, therefore, establishes a different operational environment than OS/360 RJE for the 2780.

RJE support is integrated into the structure of BULKIO II, MSAM, the Batch Monitor and the Supervisor of TSS/360. New routines in the Supervisor provide the RJE Line Control and Error Retry capabilities.

Reference Material -- System/360 Time Sharing System Planning for Remote Job Entry* ... IBM 2780 Data Transmission Terminal - Component Description, A27-3005.

PL/I Compiler

The PL/I F Compiler for TSS/360 will enable the terminal user to process source statements from pre-stored data sets. When errors are detected, or modifications are required to the source statements, the terminal user may terminate the compilation, make corrections and recompile. There is no line-by-line syntax analysis available as in the TSS/360 FORTRAN Compiler. The PL/I F Compiler will be available 3Q70.

The TSS/360 PL/I source language supported will be compatible with PL/I F except for multitasking, SORT/MERGE, checkpoint and the regional I/O QTAM facilities of the I/O environment option. If these statements are used, they will be compiled properly. The user will be informed that the feature is not available at execution time. The data files that OS and TSS/360 PL/I programs generate may not be compatible. Data compatibility will be provided under the Sequential Access Method (SAM).

The use of PCS (Program Control System) for debugging is limited to using external definitions. No ISDs (Internal Symbol Dictionaries) will be generated.

Although TSS supports both 24- and 32-bit addressing modes of operation, compiling or executing PL/I code is restricted to tasks operating in 24-bit mode.

The PL/I compiler and the object programs it produces will also operate in batch mode.

Reference Material -- IBM System/360 Time Sharing System PL/I Language Manual* ... IBM System/360 Time Sharing System PL/I Subroutine Library*.

*Availability will be announced in a future PRL.

New Minimum System Requirement (Effective August 31, 1969)

Support is withdrawn for 2311 TSS/360 system residence. TSS/360 will only be delivered as 2314 system resident. The 2311 will continue to be supported for user data sets and system paging. The 2314 system residence is required by the implementation of additional system functions and for performance improvements.

Minimum System Configuration (Effective August 31, 1969)

The minimum system configuration is: One 2067 mdl 1; two 2365 mdl 2s; one 2860 mdl 2 or two 2860 mdl 1s; one 2780 mdl 1; one 2821 mdl 1 or 5; one 1403 mdl 2 or mdl 3 or N1 with one 1416 mdl 1; one 2540 mdl 1; one 2820 mdl 1; one 2301 mdl 1; one 2314 mdl 1, A1 or A2. 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 2316s.

See "P 360G Programming Pages" in the Sales Manual for additional hardware features and RPOs required.

VAM II and Duplex Support - Available 2Q69

Version 4 of TSS/360 provides a firm operating base for performance and reliability evaluation. To realize the potential of this system and in order to reflect maximum user experience and customer input in subsequent Programming Releases of TSS/360, VAM II and Duplex Support will be available in 2Q69.

User experience has already been reflected in VAM II as it is now proposed. No longer will VAM II duplicate the system catalog or other sensitive data sets, since it has been found that other system facilities can accomplish this task more economically and still maintain system reliability.

Multiple Sequential Access Method - MSAM

A new access method has been added to TSS/360. MSAM, which is used by System Programs only, provides operation of on-line card readers, punches and high-speed printers in a TSS/360 environment. It provides automatic buffering to minimize system overhead. This access method is available in Version 4 of TSS/360. With the availability of this access method, only the MSAM facility will support unit record equipment.



IBM World Trade Data Processing

P69-49

Type II
Program Announcement

**IBM SYSTEM/360 MODEL 20 REQUIREMENTS
PLANNING AND INVENTORY CONTROL
SYSTEM (RICS 20) (360V-MF-10X)**

This program may now be ordered. First shipments will begin the week ending April 11, 1969.

The program package provides an integrated system for requirements planning and inventory control of manufactured and purchased items. It contains the following four programs which run under an application control program:

- Order File Organization
- Status Updating
- Requirements Planning
- Order Policy

This application program is designed for execution under the IBM System/360 Model 20 Disk Programming System, and uses files which have been organized and maintained by the System/360 Model 20 Bill of Material Processor (360V-ME-08X). It is written in a modular manner to provide for maximum facility in tailoring a customized system with standard or user specified input and output formats.

The Program Description Manual, (H19-0023), Operations Manual (H19-0022), and the Application Description Manual (H19-0007,) plus System Manual (Y19-0002) will be available. Advance copies will be shipped. Additional copies will be obtainable from the IBM Distribution Center, Mechanicsburg, Pennsylvania. Consult the Weekly Publications Release Letter for actual date of availability.

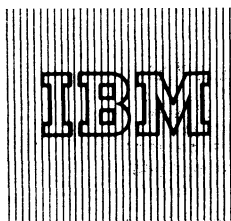
For detailed information, refer to the attached sales manual page.



John Fahey
Director of DP Marketing

Attachments [1]: Programming 9021
Release Date: March 31, 1969
Distribution: All Areas

P69-49



LOW USAGE 700, 1400, 1620, 1710, AND 7000 SERIES TYPE I PROGRAMS TO BE WITHDRAWN FROM LIBRARY

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 latter, 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] Programming distribution media may be different in this area based on local conditions although DTR, disk packs, etc., may be indicated.
[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.

A number of Type I programs in the program library has satisfied customers' needs and are no longer in demand. To keep only active programs in the library, the 700, 1400, 1620, 1710 and 7000 series computer programs listed below and on the reverse side will be withdrawn 90 days from the date of this letter. The program documentation will also be withdrawn from the IBM Distribution Center, Mechanicsburg.

Thirty days after announcement, program update service, CE and SE support, and APAR processing will be discontinued.

Customers who may be affected should be notified immediately.

Handwritten signature of John Fahey, Director of DP Marketing.

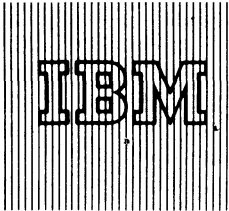
Table with 2 columns: Program No. and Program Name. Lists various programs such as 0704-FO-039 32K FORTRAN Programming System, 0705-CV-045 0705/1401A Assembly Program, 0709-PR-063 SHARE Operating System - IBM Monitor Version, 1401-IO-077 IBM Input/Output Control Program/IOCP for IBM 1401/1440/1460 with the 1285 Optical Reader, etc.

(continued)

Published by DP Sales Publishing Services, WTHQ

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Release Date: April 3, 1969
Distribution: All Areas



INTERNATIONAL ADVANCED LIFE
INFORMATION SYSTEM (INTERALIS),
A TYPE II PROGRAM FOR SYSTEM/
360 WILL BE AVAILABLE IN 1970:

Release 1 2Q1970
Release 2 4Q1970

INTERALIS represents a comprehensive systems approach to maintaining, processing and servicing individual life insurance contracts.

The system will be available in 2Q1970 except for Valuation, Policy Exhibit and Home Office Inquiry, which will be available in 4Q1970.


Modular programming techniques are being used to perform the following general functions:

- . Automatic processing of all scheduled (internal) and non-scheduled (external) transactions, including accounting, policy exhibit and valuation.
- . Providing figures for annual and interim statement purposes.
- . Updating of policies with cash values, reserves, dividends and renewable term premium rates just before the anniversary.
- . Processing inquiries from terminals to provide policy status on loan, surrender and mode premium values.

INTERALIS is functionally similar to the Advanced Life Information System (ALIS), but much more oriented towards the requirements and practices of insurance companies which transact business outside North America.

Additional Program Support material will be available in the Application Description Manual (H19-0025). Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Pa. Consult the weekly Publications Release Letter for actual date of availability.

See the attached Sales Manual pages for more information. Further details may be obtained from your Life Insurance Co-ordinator or Insurance Marketing Representative.


John Fahey
Director of DP Marketing

Attachment: P9045
Release Date: April 1, 1969
Distribution: All Areas