69

TWO NEW MODELS OF IBM 2314 PROVIDE INCREASED MODULARITY AND ACCESS SPEED

IBM announces two new models of the IBM 2314 Direct Access Storage Facility providing increased capabilities for System/360 Models 30, 40, 50, 65, 67, 75, and 85.

Model A1: Contains a control unit plus eight independent modules for an on-line capacity of 233.408 million bytes, plus a spare drive.

Model A2: Contains a control unit plus five independent modules for an on-line capacity of 145.880 million bytes.

Highlights (both models):

Reduced access time to 60 milliseconds average.

Compatible with IBM 2314 Model 1 - both programming and data format.

Data rate 312 KB.

Continues use of IBM 2316 Disk Pack.

In-line diagnostic capability through use of "service" module plug.

The IBM 2314 Model A2 provides a modular growth pattern for the present IBM 2311 user, offers a lower price entry for new customers requiring high performance, large capacity storage, and a more economical growth path for currently installed IBM 2314 users.

Delivery:

First customer shipments for new orders of 2314 Models A1 and A2 will commence in September 1969. For order conversion from a 2314 Model 1 to a 2314 Model A1 or an A2, see "IBM 2314 Model 1 Withdrawal." The published delivery schedule will be available in 90 days. Schedule dates for orders received during this 90-day period will be assigned on a sequential basis. No commitments to customers are to be made until such dates are received in the branch office.

RPQ's:

RPQs may be submitted immediately for the 2314 Models A1 and A2. Processing will not begin until 120 days after announcement. Response will be within 90 days. No RPQ's will be shipped until six months after the first customer shipment of the basic unit.

Programming:

The proven 2314 Model 1 programming support is available for Models A1 and A2. All IBM and customer programs operable on the Model 1 will run on the Models A1 and A2 without change.

Current releases of DPS, TSS, and Emulation fully support Models A1 and A2. Current release of OS/360 fully supports Model A1. An incremental improvement to OS/360 will be available for first customer shipment to support system generation for five instead of eight disk modules.
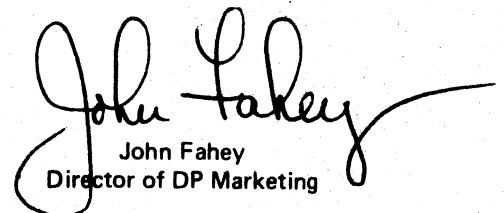
IBM 2314 MODEL 1 WITHDRAWAL

Concurrent with the announcement of the 2314 Models A1 and A2, the 2314 Model 1 is being removed from the product line. All future orders must be for Models A1 or A2. All proposals must be updated to reflect this. The following guidelines concerning the Model 1 will be followed:

All current orders for 2314 Model 1s will be honored. A 2314 Model 1 scheduled for shipment after July 7, 1969 can be converted to a Model A1 or A2 and still retain the same shipment date, provided this is requested within 60 days.

Any customer-initiated deferment beyond the published delivery schedule which was in effect at the time of order entry may result in cancellation of the order.

See reverse side of this letter for prices and additional details.

John Fahey
Director of DP Marketing

Note: DP Letter No. 69-201 distributed to Europe, Canada, Asia-Pacific, Australia and New Zealand only.

Distribution: All Areas

Modularity: Two new models of the 2314 now available -- Model A1 with eight modules and a spare providing 233.4 million bytes, and Model A2 with five modules providing on-line capacity of 145.88 million bytes.

Improved Access Time: The average access time has been improved by 20% from 75 ms to 60 ms. The minimum is 25 ms and the maximum is 130 ms.

Cylinder Concept: Same as in 2314 Model 1, with 20 tracks per cylinder, up to 7294 bytes per track, 145,880 bytes per cylinder.

Data Rate: 312,000 bytes per second.

Interchangeable Disk Packs: The 2316 pack is used on Models A1 and A2.

Standard Features: Includes file-scan, record overflow, and control unit isolation.

Prices:

Model	Rental(MAC)	Purchase	MMMC
2314-A1	$ 5,785	$ 264,340	$ 615
2314-A2	3,950	180,490	375

Rental Plan: A (10%)	Maintenance: C
Purchase Option: 55%	Per Call: 2

Publications: TNL N26-0230 for SRL A26-3599 will be available. The following SRLs will be updated through TNLs to reflect the new models: *DOS Data Management Concepts (C24-3427)* and *OS/360 System Generation (C28-6554)*. Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Pa. Consult forthcoming weekly Publications Release Letter for actual dates of availability.

Limitations: The 2314 - A1 and A2 require a 1.5 microsecond 2030 and must be attached to the first selector channel.

On the model 40, 2314s may not be attached to both channels.

Sales Compensation Plan: Normal provisions apply.

Field Conversion: Field conversion between the 2314 - A1 and the 2314 - A2 will be offered. The 2314 - 1 cannot be field converted to a Model A1 or A2.

Special Features: All special features available on the 2314 - 1 are available on the 2314 - A1 and A2, except the 2844 Attachment Feature which is available on 2314 Models 1 and A1 only. No new features are being announced.

Program Testing Allowances: A program testing allowance of 15 hours applies to Models A1 and A2.

Education Allowance: DP Education Allowance Program for the new models is the same as for the 2314 Model 1.

2314 MODEL A1 AND A2 COMPONENTS

The 2314 Direct Access Storage Facilities are composed of one 2314 Storage Control, one 2312 Disk Storage unit (one disk storage module), and one or two 2313 Disk Storage units (each 2313 has four disk storage modules). As part of the announcement of the 2314 Model A1 and A2 Facilities, the individual unit rental, purchase and maintenance agreement prices are being released. These units have been designed for inter-connected operation and have not been designed for stand-alone individual use. However, there may be customers who wish to order them for separate use. RPQ's may be submitted to provide the necessary elements to complete the units for stand-alone operations (covers, cable connectors, etc.).

The statements referencing Delivery Schedule, RPQ's and Programming Support apply to the individual units as well as to the 2314 Model A1 and A2 Direct Access Storage Facilities.

The programming support available for the 2314 Models A1 and A2 Facilities are useable only if the disk storage units are operated as part of Model A1 or A2 Facilities or through storage control units fully compatible with the 2314 Storage Control and the S/360 Selector Channel operations.

Unit Prices:

Model	Rental(MAC)	Purchase	MMMC
2312-A01	$ 560	$ 25,590	$ 75
2313-A01	1,835	83,850	240
2314-A01	1,555	71,050	60
2314-A02	1,555	71,050	60

Publication: OEM Manual will be available on or before July 1, 1969. Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Pa. Consult forthcoming weekly Publications Release Letters for actual availability.

Program Test Allowance: A program testing allowance of 5 hours applies to the

    2314 - Models A01 and A02 Storage Control
    2313 - Model A01 Disk Storage
    2312 - Model A01 Disk Storage

Education Allowance: Education Allowance Program for the individual units is the same as for the 2314 Model 1 Direct Access Storage Facility.

DP Orders and Movements Codes:

Type	Model	Product Type	Product Category
2312	- A01	7	59,87,89,91,92,93,95
2313	- A01	7	"
2314	- A01	7	"
2314	- A02	7	"

Product Announcement

NEW FRENCH 2203 AND 1443 PRINTER 39 CHARACTER TYPE BAR

A new 39 character type bar for the 2203 and 1443 Printer is now available. It includes, as special characters, a period (.), a comma (,) and an asterisk (*).

Orders for this type bar can be filled within 90 days.

Sales Manual pages are attached.

**PURCHASE PRICE CLARIFICATION OF SYSTEM/360 MODEL 40 G F**

The purchase price of the System/360 Model 40 G F previously announced in DP Letter 68-276 as $447,325 has been adjusted to $417,325. Appropriate sales manual page is attached to reflect this price.

John Fahey
Director of DP Marketing

Attachments [15]: [1] General Information 19 ... [2 thru 13] Machines 46-50, 59-63, 402/403 [1], 407/409 [1], 421.3, 444.1, 1403 [1], 1442.1, 2040.1, 2050, 2702.1, 10000.1 ... [14 and 15] Type Catalog 81 and 83

Distribution: All Areas
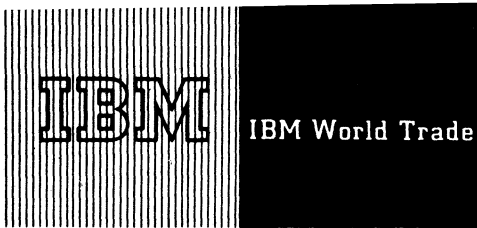
Product Announcement

ORDERING PROCEDURE CLARIFIED FOR 1052 PRINTER KEYBOARD ADAPTERS

When attaching 1052 Printer-Keyboards to a processing unit of the IBM System/360 Model 65, the present ordering procedure for the required adapters is as follows:

For first 1052: ....Specify Feature 7920

For second 1052: .....Specify Feature 7921

It is now possible to order a dual adapter for attaching two 1052s at the combined price of Feature 7920 and 7921. The dual adapter feature is 7922.

See attached sales manual pages for ordering details.

2740/2741 COMMUNICATION TERMINAL; PRINT CAPABILITY STATEMENT CLARIFIED

In the Highlights section of the 2740 and 2741 Machine pages of the Sales Manual, a statement has been added to note that there are basic design differences in these machines which will result in different graphic quality of the output printing compared to the Model 72 Typewriter. Customers with applications requiring critical printing must be directed to evaluate 2740/41 output capability in light of their own needs. Statements by IBM must not be made equating 2740/41 output printing to the Model 72 typewriter output.

John Fahey
Director of DP Marketing

Attachments [3]:   Machines 2065, 2740, and 2741

Distribution: All Areas
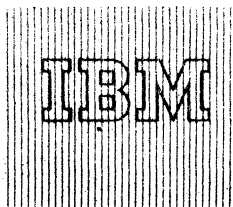
Product Announcement

DUAL ADDRESS ADAPTER FEATURE NO. 2996 FOR IBM 1419 MODEL 32 MAGNETIC CHARACTER READER

The System/360 Dual Address Adapter, #2996, is now available on the 1419 Model 32 to provide attachment to the System/360 Model 25, 30, 40, 50, or 65. This feature provides significantly more time to stacker select documents than is provided with the Adapter, #7720.

To accomodate the flexibility of the Expanded Codeline capability, three read terminations are provided. Only one time will be operative during any processing run as determined by the last field selected for transmission. Each termination time is adjustable and their assignment to fields selected for transmission is program controlled in the 1419 (i.e., one customer may use Field 3 to select the termination time, while another customer will use Field 4). The termination times will be adjusted and field assignments made at installation to conform to the customer's codeline and application.

The termination times are adjustable as follows:

First Termination Time (T_1) 19 ms to 26 ms after document arrives at the read head.

Second Termination Time (T_2) 2 ms to 9 ms after T_1.

Third Termination Time (T_3) 2 ms to 9 ms after T_2.

The available stacker select time for a particular processing run depends upon which termination time is operative during the run. The stacker select time is calculated by subtracting the read termination time from 45 ms. The following example will illustrate the calculations:

Assume

T_1 = 19 ms.

T_2 = T_1 + 9 ms. = 28 ms.

T_3 = T_2 + 4 ms. = 32 ms.

Run # 1 (First termination time operative): Stacker select time = 45-T1= 45-19= 26 ms.

Run #2 (Second termination time operative): Stacker select time = 45-T2= 45-28= 17 ms.

Run #3 (Third termination time operative): Stacker select time = 45-T3= 45-32= 13 ms.

Two distinct control units are located in the 1419, each having a separate address, as well as its own set of executable commands, status and sense indicators.

The Primary Control Unit (PCU) is the data transfer control unit. The PCU is capable of executing read, engage and disengage commands.

The Secondary Control Unit (SCU) is used for stacker selection and other control functions such as batch numbering advance and pocket light control. This control unit can execute its command set while documents are being read in the PCU.

A 1419 equipped with this feature is attachable to the multiplexor channel only.
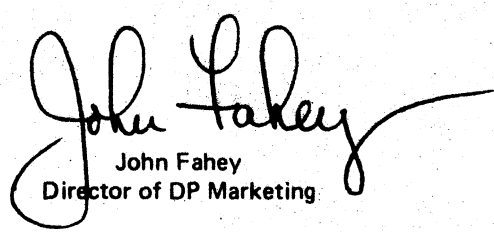
The Dual Address adapter, #2996, cannot be installed with Adapter #7720.

Direct Control (#3274) or External Interrupt (#3895) is required on the processing unit for operation of this feature on the 1419.

The maximum number of 1419's that may be effectively operated is application and configuration dependent. See machine pages in the sales manual.

The feature can be plant or field installed on rental or purchase machines.

See reverse side for Prices, Delivery and other information.

John Fahey
Director of DP Marketing

PRICES

Feature	MAC	Purchase	MMMC	FIC
System/360 Dual Address Adapter 2996	$315	$15,280	$25	PCR

DELIVERY

The schedule for initial plant shipments and field installations for all applicable S/360 Models is June 1969.

RPQs

RPQs may be submitted immediately with response time dependent upon the complexity of the RPQ. All existing RPQs should be checked for compatibility with Special Equipment. Contact the country or area representative for RPQs allowing use of the 1419 interchangeably with System/360 or 1400 Series System.

ON ORDER 1419s

An Alteration Notice specifying #2996 must be submitted by the branch office 120 days prior to shipment for each 1419 on order desiring the feature.

INSTALLED 1419s

An MES specifying #2996 must be submitted by the branch office for each installed 1419 requesting the feature. For field installation of the feature, the 1419 must have EC 133483 or above.

PROGRAMMING SUPPORT

This feature is supported under currently announced DOS/360 .

PUBLICATION SUPPORT

The availability of the revised SRL Form A19-0023-1, IBM 1419 Model 32 Attached to System/360, will be announced in a forthcoming Publications Release Letter. Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Pa.

Appropriate sales manual pages are attached.

Product Announcement

4800 bps CAPABILITY OF THE IBM 2701 DATA ADAPTER UNIT, 2703 TRANS—MISSION CONTROL UNIT, SYSTEM/360 MODEL 20 AND MODEL 25

IBM announces the capability of the 2701, 2703, System/360 Model 20, and Model 25 Integrated Communications Attachment (ICA) Binary Synchronous Communications features to operate up to 4800 bps via Leased Private Line Telephone Service. This capability is available for point-to-point applications.

2701, System/360 Model 20, and System/360 Model 25

The 2701 Synchronous Data Adapter Type II (No. 2899), the Model 20 Binary Synchronous Adapter (No. 2074), and the Model 25 Synchronous Data Adapter (No. 7551, 7552) are now capable of operation up to 4800 bps with each other or a 2703 Synchronous Base Type 2A. Either EBCDIC or ASCII codes may be specified for 2701, 2703, Model 25 or Model 20 applications. This feature does not provide for 4800 bps clocking. Therefore, clocking must be provided by the modem.

2703

A new feature, the Synchronous Base Type 2A (No. 7706), makes possible Binary Synchronous Communications at speeds up to 4800 bps. Each new base provides capability for up to twelve 4800 bps lines. Clocking for 4800 bps must be provided by the modem. An intermix of the new base and existing Start/Stop bases and/or Synchronous Base Type I is possible, providing flexibility to meet various system requirements. Either EBCDIC or ASCII codes may be specified for communications with a similarly equipped 2703, a 2701, Model 20 Binary Synchronous Communications Adapter (BSCA) or Model 25 ICA. The new base will operate up to 4800 bps via point-to-point Leased Voice Grade communications channels; up to 2400 bps point-to-point or multipoint via the above channels.

Modems and PTT Approval: As for any Tele-processing announcement, the individual country PTT must approve of attachment to their facilities. It is possible that PTT approval for 4800 bps communication is not possible in some countries. This operation must not be proposed without either PTT approval or the approval of the TP coordinator.

CONTENTS

4800 bps Capability of the IBM 2701 and 2703 and System/360 Mdls. 20 and 25

System/360 Mdl. 20 Submodel 02 - Synchronous Transmitter Receiver Withdrawn

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Country and/or Area System Assurance Department must review the PTT approval position. The TP co-ordinator should be contacted for 4800 bps modem information.

Delivery: First customer shipments of the 2703 Synchronous Base Type 2A will be in March, 1969. Existing ship schedules for the 2701 SDA II, the System/360 Model 20 BSCA, and the Model 25 ICA will be applicable for 4800 bps operation upon release of this announcement.

Programming Availability: All BSC programming support for the 2701 SDA II, System/360 Model 20 BSCA, Model 25 ICA, and 2703 Synchronous Base Type 1A at 2400 bps point-to-point will also support the bps operation.

Publications: Technical Newsletters (TNLs) for the 2701, 2703, and System/360 Model 20 and 25 Component Description SRL Manuals will be available one month after announcement. Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Pa. Refer to a forthcoming Publications Release Letter for actual date of availability.

RPQ Support: RPQ's on all announced items will be accepted for consideration one month after announcement. Response time will depend upon complexity of the RPQ. Only RPQs with wide general application will be considered.

Prices:

	Feature	MAC	Purchase	MMMC	FIC
2703 Synchronous Base Type 2A	No.7706	$275	$12,000	$4.50	PCR

WITHDRAWAL OF SYNCHRONOUS TRANS—MITTER RECEIVER (STR) FEATURE CODE 2073 FOR SYSTEM/360 MODEL 20 SUBMODEL 02
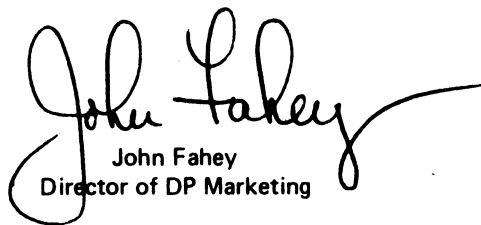
The Synchronous Transmitter Receiver (STR) Communications Adapter No. 2073 for System/360 Model 20 Submodel 02 is immediately withdrawn. Since

August, 1967, following the announcement of BSCA, orders for the STR/CA for the submodel 02 have been on an "as available" basis only.

Existing orders for feature code no. 2073 will be honored. Customer initiated deferrals of orders for no. 2073 will cause the order to be cancelled.

The Communications Input Output Control System (CIOCS) program supporting 2073 - STR/CA will continue to be available from PID as will normal SDD programming maintenance functions.

RPQ's for STR Communications Adapter capability for the System/360 Model 20 Submodel 02 will be accepted on an individual basis.

John Fahey
Director of DP Marketing

Product Announcement

1416 INTERCHANGEABLE TRAIN CARTRIDGE; NEW QNC CHARACTER SET

A new character set arrangement, designated QNC, is available for the 1416 Interchangeable Train Cartridge. QNC consists of 60 graphics, of which 45 are "preferred". For commercially oriented customers using PL/1, this new character set permits printing speeds up to 1,100 lines per minute.

QNC is available in .095 inch (2.41 mm) and .079 inch (2.01 mm) type size.

Where QN, a scientifically preferred arrangement is currently on order, the customer may desire to change to QNC. In this case you should submit an Alteration Notice.

Orders are acceptable immediately.

84 SORTER PLACED IN LIMITED NEW PRODUCTION

Effective immediately, the IBM 084 Sorter is in limited new production.

Current orders scheduled for delivery will be honored with new equipment if the original delivery date was within the published delivery schedule in effect at the time of order entry, and if that date has not been deferred beyond May 30, 1969.

Action Required ... All customers affected by this release must be notified promptly.

John Fahey
Director of DP Marketing

Attachments [3]:   [1] Machines 65 – 68 ... [2 and 3] Type Catalog 71 and 75.

Distribution: All Areas
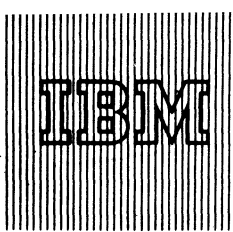
Marketing Announcement

Subsequent Use of Purchased IBM Equipment

In order that both first and subsequent use purchased IBM equipment may be utilized effectively, IBM WT makes available to the user the following services:

1. Systems Physical Installation Planning assistance.

2. Formal Classroom Education on IBM premises.

3. Type I Programming System Maintenance.

4. Machine Maintenance Service.

5. Type I Programming Systems and Type II Application Programs (including documentation and program update services).

6. Publications.

Each of the above services is currently available either at no additional charge or upon payment of service charge, and will be available for purchased IBM equipment as long as the service is generally available for IBM rental equipment.

If a more detailed explanation of these changes or a review of the complete subsequent user policy is desired, contact your Branch Manager.

John Fahey
Director of DP Marketing

Attachment: General Information 29

Distribution: All Areas

Product Announcement

IBM 1230, 1231 MODEL 1, 1232, 1282 OPTICAL READER UNITS PLACED IN LIMITED NEW PRODUCTION

Effective immediately, the IBM 1230, 1231 Model 1 and 1232 Optical Mark Readers and the 1282 Optical Reader Card Punch are in limited new production.

New production units will be individually scheduled to satisfy any unique requirements.

Action Required ... All customers affected by this release must be promptly notified.

1403 FEED FEATURE STATUS CHANGED

Effective immediately, the Auxiliary Ribbon Feeding feature (1376) is no longer available for the IBM 1403 Printer Models 6 and 7 when the models are attached to an 1130 Computer System. The feature will continue to be available on the 1403 Models 6 and 7 when these models are attached to systems other than the 1130.
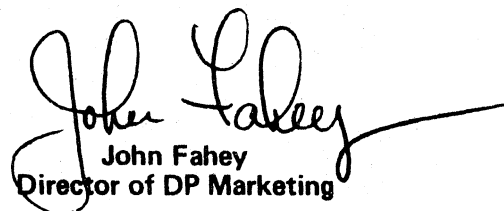
Action Required ... All customers affected by this release must be promptly notified.

IBM 1418 AND 1428 OPTICAL CHARACTER READERS GOING OUT OF NEW PRODUCTION

The IBM 1418 and the 1428 Optical Character Readers are being phased out of new production. Effective immediately, no orders may be accepted except on an "as available" basis.

Current backlog orders will be honored on their currently committed shipping schedule. Customer-initiated deferments may cause conversion to "as available" status.

Action Required ... All customers affected by this release must be promptly notified.

John Fahey
Director of DP Marketing

Distribution: All Areas
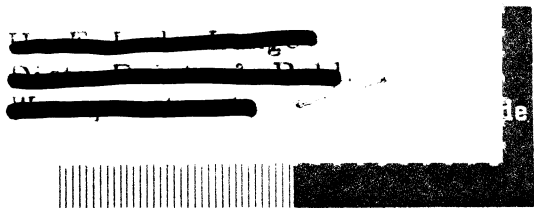
Product Announcement

MES AVAILABILITY SCHEDULE FOR SYSTEM/360 MODEL 20 SUBMODEL 5

First customer shipment of System/360 Model 20 Submodel 5s are scheduled for May. If your customers require field changes between then and November, the following MES availability schedule should be used for planning those changes. (An asterisk [*] indicates availability with first customer shipment provided normal MES lead time has been allowed for order processing. All dates are this year's.)

Field Changes	Attachment To System	Removal From System
Core Storage Size	*	*
Input/Output Channel	*	November
2501 Mdl A1 - A2 Attachment	*	*
1442 Mdl 5 Attachment	*	*
2520 Mdl A1-A2-A3 Attachment	*	*
Storage Control	July	October
BSC Adapter	July	October
2560 Attachment	July	July
Card Print Control	July	July
2203 Conversions	August	November
1403 Conversions	August	November
Universal Character Set	August	October
Printer Features Control	August	August
Serial I/O Channel	September	October
Dual Feed Carriage Control	September	September
2152 Attachment	September	November

Reminder: When a Model 20 Submodel 5 is ordered to replace an installed Model 20 and the Model 20 I/O is retained, new cables must be ordered for the 2020 Submodel 5. Refer to

TNL N33-1523 which revises Physical Installation Manual (A26-5896-7). Advance copies of the TNL have been shipped. Additional copies are available from the IBM Distribution Center, Mechanicsburg, Pa.

In addition, when a 1403 is retained, a no-charge MES is required, ordering adapter No. 9724 for a 1403 Model 2 or 7, or adapter No. 9726 for a 1403 Model N1.

Action Required ... All customers affected by this release must be promptly notified.

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

2020 SUBMODELS 1 AND 2 NO LONGER IN NEW PRODUCTION

Effective immediately, the IBM 2020 Processing Unit Submodels 1 and 2* are being withdrawn from new production.
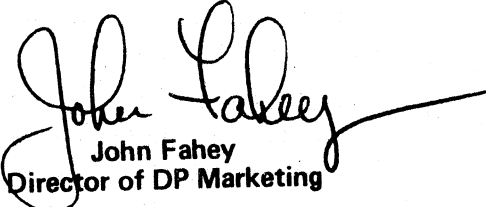
Existing orders for new equipment will be honored. Additional orders will be accepted on an "As Available" basis.**

New production will cease on December 31, 1969. Machines that require 1970 delivery will be shipped to the ordering country for warehousing until the required shipping date.

Action Required ... All customers affected by this release must be notified promptly.

* Submodels 1 and 2 include Models B1, C1, BC1, D1, B2, C2, BC2, and D2.

** NOTE: "As Available" - Equipment no longer in production is classified "As Available". Orders for "As Available" equipment are accepted on a conditional basis. If equipment is available, the Area fills orders with field transfers. In most cases, "As Available" means that a present customer installation and the country inventory of idle equipment are our only possible sources of supply for that equipment.

John Fahey
Director of DP Marketing
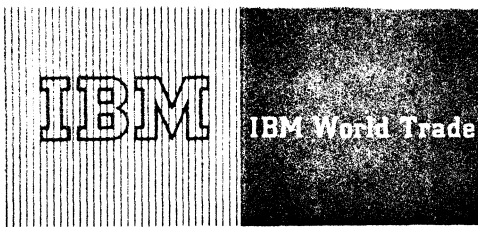
Distribution: All Areas

Miscellaneous Announcement

SECTION LISTING RPQs NOW PART OF SALES MANUAL

A new section of the Sales Manual is being added which contains a selected group of Non-Standard Features and Products (commonly referred to as Requests for Price Quotation [RPQs]).

This will assist salesmen in filling the needs of our customers for specifically engineered modifications or products on a more timely basis and at less internal administrative cost than has been possible in the past.
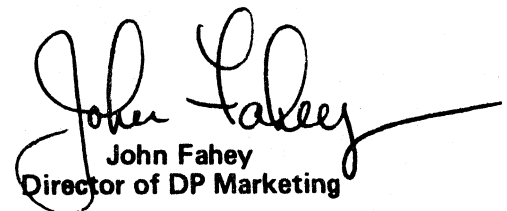
If an RPQ shown in this section solves the customer problem, it can be quoted to a customer and ordered by entering the RPQ reference number on the DPMO/MES. No RPQ form is required.

When an RPQ not listed in this section is submitted for consideration, it should not be construed as a commitment on the part of IBM to design, price or accept an order for the item. Prior availability of an RPQ does not guarantee or imply current or future availability.

RPQ machines and features are generally not supported by IBM Programming Systems and IBM Application Programs; however, they are designed to work within the framework of existing programs whenever possible.

Delivery of RPQs must be confirmed through normal scheduling procedures.

Additional details, including a procedure for submitting RPQs are contained in the attached sales manual pages. Further RPQ procedures are contained in Section 2-10 of the World Trade Instruction Manual.

John Fahey
Director of DP Marketing

Attachments [4]:   [1] RPQ Tab ... [2 thru 4] RPQ 1, 3 and 5.

Distribution: All Areas
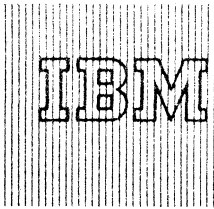
Product Announcement

WITHDRAWAL OF IBM 1401 MODEL H TO "AS AVAILABLE"

Effective immediately, the production status of the IBM 1401 Model H is changed to "Not in New Production." Current approved orders will receive shipments as scheduled. New orders will be filled on an "As Available" basis.

John Fahey
John Fahey
Director of DP Marketing

Distribution: All Areas (except Indian Region)

1416 TRAIN AND 1403 CHAIN ARRANGEMENT - ISOCRAF-A 1

IBM World Trade Corporation announces a new character arrangement (OAA) for the 1416 Interchangeable Train Cartridge on the 1403 Printer, Model 3 or N1 and the Fixed or Interchangeable Chain Cartridge on the 1403 Printer, Models 2 and 7, when attached to the System/360.

The OAA character arrangement (Feature # 2994) allows printing of the alphabetic, numeric, and special characters (/ - . , * $ and &) of the International Organization for Standardization Alphanumeric Character Set for Optical Recognition A font, Size 1 (ISOCRAF - A1). The character arrangement also includes the 1403 style characters @, #, %, +,< .

The 1287 Models 3 and 4 and the 1288 Model 1 are capable of reading all characters in this arrangement except the 1403 style characters.

> Note: Recent field experience indicates that the ISOCRAF-A1 font should be recommended in preference to the 1428 font in 1287 applications involving 1403 Printers. Although the 1287 reads both type fonts equally well with properly adjusted 1403's, the ISOCRAF-A1 font provides .005" more space between adjacent characters, thus permitting recognition of characters printed closer together than desired.

Universal Character Set or Multiple Character Set is a prerequisite on the 1403 Printer, Model 3 or N1, using the OAA character arrangement on the 1416 Interchangeable Train Cartridge because of the repositioning of characters required for the inclusion of optical graphics.

No change to Programming Systems support is required.

Print speed is identical to the AN character arrangement.

Either of the following features can be ordered to alter the OAA arrangement. See Type Catalog section of the Sales Manual for character substitution details.

Feature #9711	¤ in place of <

Feature #9712	♪ in place of <
	Ч in place of +
	� in place of %

♪ , Ч, ⁾, are A Font Characters which can be read by the 1287 and 1288 Optical Readers; the ¤ (lozenge) cannot be read.

A (TNL) Technical News Letter will cover the OAA Character Set, updating the 1403 Printer Component Description Manual (SRL A24-3073). Availability will be announced in a forthcoming Publications Release Letter. Advance copies will be shipped. Additional copies will be available at the IBM Distribution Center, Mechanicsburg, Pennsylvania.

Orders will be accepted immediately. Customer shipment will begin in June, 1969. Schedule dates for the 1416 interchangeable Train Cartridge will be assigned on a sequential basis. No commitments are to be made to customers until such dates are received in the branch office.

John Fahey
Director of DP Marketing

Attachment: Type Catalog 79

Distribution: All Areas

Product Announcement

NEW SPECIAL FEATURE AND ADDITIONAL NO CHARGE CAPABILITIES FOR THE 1287 MODELS 3 AND 4 AND THE 1288 MODEL 1

IBM World Trade Corporation announces a new special feature and additional no charge capabilities for the 1287 Models 3 and 4 and the 1288 Model 1. They are:

1. An expanded symbol set feature.
2. Reading of OAA character arrangement printed by the IBM 1403 Printer.
3. Three additional National Graphics.

Expanded Symbol Set Feature

The expanded symbol set feature makes it possible for the 1287 Models 3 and 4 and the 1288 to recognize the special characters +, =, { , }, %, ?, ", ', in addition to the ISOCRAF-A1 font characters previously announced when created by the Model 72 typewriter or equivalent.

OAA Character Arrangement on 1403 Printer

The ISOCRAF-A1 characters A-Z, 0-9, ♪, Ч, ₫, ., >, /, -, *, &, $, of the OAA arrangement on the 1416 Interchangeable Train Cartridge on the 1403 Printer Model 3 or N1 and the Fixed or Interchangeable Chain Cartridge on the 1403 Printers Models 2 and 7 when attached to the System/360 are now readable by the 1287 Models 3 and 4 and the 1288 Model 1.

> Recent field experience indicates that the ISOCRAF-A1 font should be recommended in preference to the 1428 font in 1287 applications involving 1403 Printers. Although the 1287 reads both type fonts equally well with properly adjusted 1403's, the ISOCRAF-A1 font provides .005" more space between adjacent characters, thus permitting recognition of characters printed closer together than desired.

Additional National Graphics

Three additional National Graphics now readable by the 1287 Models 3 and 4 and the 1288 Model 1 when created by the Model 72 typewriter or equivalent are: ₭, Ñ, Ø. The ₭ or Ñ can be ordered in place of the previously announced Ä. The Ø can be ordered in place of the previously announced ö.

The above capabilities will be available for first customer shipments of the 1287 Models 3 and 4 and the 1288 Model 1 as announced in DP letter 68-255. No changes to previously announced 1287 and 1288 programming support are required.

Publications

The availability of publications describing the subject reading capability will be announced in a future Publications Release Letter. Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Penna.
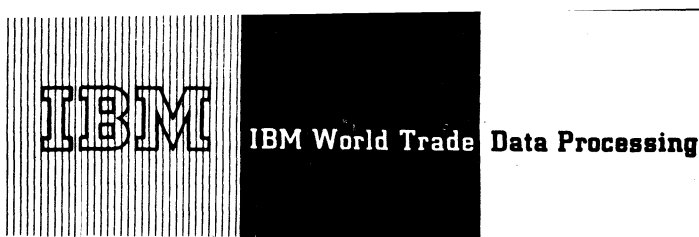
Prices

Expanded Symbol Set (#3850) for either the 1287 or 1288:

MAC	Purchase	MMMC
$70	$3,150	$3.50

John Fahey
Director of DP Marketing

Product Announcement

2314 MODEL 1 ON "AS AVAILABLE" BASIS FOR DELIVERY NO LATER THAN DECEMBER 1969

DP Letter 69-202 stated that we would honor the current 2314 Model 1 orders. Since it is expected that some customer requirements may change and that other customers will choose to convert their 2314 Model 1 orders to A1 or A2, a limited number of 2314 Model 1's may become available.

Therefore, we will accept orders on an "as available" basis. Customers who place such "as available" orders for 2314 Model 1's must agree to accept delivery no later than December 1969. Customer initiated deferment of such orders beyond that date will result in a cancellation of the order.

Action required .... All customers affected by this release must be promptly notified.

60 Hz IBM 2311 DISK STORAGE DRIVE, MODEL 1 AND IBM 2841 STORAGE CONTROL, PRODUCTION STATUS CHANGED

Effective September 1, 1969, the production status of 60 Hz IBM 2311 Disk Storage Drives, and IBM 2841 Storage Control, Model 1, will be changed to "Not in New Production."

Existing orders for new equipment will be honored, if within the published WT delivery schedule. New production will cease on August 31, 1969. New equipment scheduled for delivery after August 1969, if not rescheduled to earlier than September 1, 1969, or cancelled, will be shipped to the ordering country for warehousing until the required shipping date. Orders received after this announcement for shipment after August 31, 1969 will be supplied with "Reconditioned Equipment."
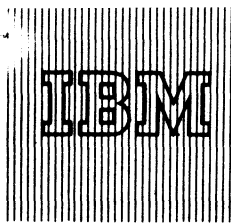
All customers so affected must be notified immediately.

50 Hz production of these units remains in "New" production.

John Fahey
Director of DP Marketing

Supplement [9]:   Machines 1230, 1232, 1282, 1403 [1], 1403 [3]. 1418, 1428, 2020 [1], and 2250.

Distribution: All Areas

Product Announcement

IBM announces ...a new range of capabilities for the Binary Synchronous Communications (BSC) product line ... for greater flexibility ... better line utilization ... better thruput ... better adaptation to WT environment.

1. 4800 BPS capability for the 2780 Data Transmission Terminal and the 1130 Computing System ... allowing these products to transmit/ receive at speeds up to 4800 bps. Your customer will be able to better utilize the I/O possibilities of these products in line with today's modem capabilities.

2. WT Switched Network capabilities for BSC devices ... where volume does not require full time leased lines BSC products can now use the public switched network at 600 or 1200 bps (subject to local network conditions). This capability applies to the 2701, 2703, System/360, Model 20, Model 25 ICA, 2780, and 1130. The IBM 3976 Modem Model 3 and specified PTT modems are now supported at 600/1200 bps on switched network (see table below).

3. Support for the Japanese NTT DT 1203 modem on leased lines with the 2701, 2703, and System/360 Model 25 ICA is also announced.

This announcement coupled with recent announcements such as BSC Intermix (Program Announcement 69-5) and 4800 BPS on the 2701, 2703, Model 20 and Model 25 (DP Letter 69-210) extends BSC to meet a full range of customer application needs.

All of the BSC products can now operate:
- on leased lines at 600, 1200, 2000, 2400, and 4800 BPS
- on switched public telephone networks at 600 and 1200 BPS

The following IBM and PTT modem/product combinations are now hardware and program supported:

	IBM 3977 (Leased Only)	IBM 3976 Model 3 [France-Italy- other]	GPO Datel 1 Model 5 [United Kingdom]	PTT D1200S (GH2011 Model 5) [Germany]	PTT GH2002 [Sweden]	NTT DT1203 (Leased Only) [Japan]
2701	X	X	X	X	X	X
2703	X	X	X	X	X	X
2020	X	X	X	X	X	—
2025 ICA	X	X	X	X	X	X
2780	X	X	X	X	X	—
1130	X	X	—	—	—	—

2780 AND 1130 AT 4800 BPS (A)

The 2780 can now operate terminal-to-terminal and with the 2701, 2703, and System/360 Model 25 ICA Binary Synchronous Communication features to transmit up to 4800 bps via leased private line or privately owned equivalent telephone facilities. This capability is available for point-to-point communications in half-duplex mode. Choice of 6-Bit Transcode (2780-2780 or 2780-2701 only), EBCDIC, or USASCII code may be employed. With "Specify" Feature #9208, (4800 baud operation) increased speed, thruput and performance is possible ... but will vary depending on code, modem used, line facility, character set and terminal I/O configuration.

Note: When Feature #9208 is specified, Multi-record Feature #5010 cannot be installed, and if installed, it must be removed. Multi-point Line Control #5020 is not available with Feature #9208.

The 1130 Computing System can now transmit data over leased private line or privately owned equivalent telephone facilities at speeds up to 4800 bits per second in BSC mode when using the 1131 Synchronous Communications Adapter (#7690). Operation is restricted to point-to-point communication in half duplex mode to another 1130 system or to System/360 via 2701, 2703 or Model 25 ICA.

World Trade Modems and PTT Approval

As with any World Trade Communications Product announcement, the individual country PTT must approve of attachment to their facilities. Before proposal you must assure that 4800 bps operation is available in your country. This can be accomplished through your Teleprocessing (TP) coordinator. Country and/or Area System Assurance Department must review the PTT approval position. The TP coordinator should be contacted for 4800 bps modem information.

Delivery

Customer Shipments of the 2780 will be as scheduled for machines on order. Alteration Notices must be submitted immediately for the new specify Feature #9208 to update machines on order. MES's for the new specify Feature #9208 must be submitted to the plant to upgrade machine records for installed machines.

Existing ship schedules for the 1130 system are applicable for 4800 BPS operation. This capability will be available August 1, 1969.

Programming Availability

All BSC programming support for the 2780 and the 2701 SDA II, Model 25 ICA, and 2703 Synchronous Base Type 1A at 2400 bps point-to-point will also support the 4800 bps operation.

All BSC programming support for the 1130 at 2400 BPS point-to-point will also support the 4800 BPS operation. Diagnostics operable at 4800 BPS will be available August 1, 1969.

Publications

A technical Newsletter (TNL) to the 2780 Components Description SRL Manual covering this capability will be available approximately one month after this announcement. Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Pennsylvania. Consult the weekly Publications Release Letter for actual date of availability.

RPQ Support

RPQ's on all announced items will be accepted for consideration one month after announcement. Response time will depend upon complexity of the RPQ. Only RPQ's with wide general application will be considered.

OPERATION ON SWITCHED TELEPHONE NETWORK (B)

New machine features and additional programming capabilities enable a call to be established on the Switched Telephone Network for the purpose of transmitting data between Binary Synchronous Communications devices,

- with the IBM 3976 Modem Model 3, in countries where approved

- in United Kingdom with the GPO Modem type Datel 1 Model 5

- in Germany with the PTT Modem type D1200S (ie, GH-2011 Model 5) and

- in Sweden with the PTT modem type GH-2002A.

Fundamentally, the operations may be as follows:

Computer-Originating Station	Computer-Answering Station
Manual Dial by operator (as instructed by computer)	Manual answer by operator or automatic answer by computer
Automatic disconnect by computer	Automatic disconnect by computer

or
Terminal-Originating Station	or Terminal-Answering Station
Manual Dial by operator	Manual answer and manual disconnect by operator or
Manual disconnect by operator	Automatic answering and automatic disconnect by the terminal.

These new capabilities which enable operation on the Switched Telephone Network are provided for:

System/360 Models 25 and 30 using DOS/360 BTAM, Models 40, 50, 65, 67 (in 65 mode), and 75 with DOS/360 BTAM or OS/360 BTAM, Model 85 with OS/360 BTAM, operating with the 2701 or 2703. For the 2701, the new capability is provided by the Synchronous Data Adapter Type II (#2899) and also by the Dual Communications Interface (#2901). A new feature (#2972) provides special attachment capabilities for the Swedish PTT modem. New feature (#2973) provides a synchronous clock with a manually controlled switch for selection of 600 or 1200 bits per second data rate. For the 2703, the new capability is provided by Synchronous Line Set (#2902). A new feature (#2975) provides special attachment capabilities for the PTT modems in Sweden and United Kingdom.

System/360 Model 25 with the Integrated Communications Attachment using DOS/360 BTAM. The new capability is provided by Synchronous Data Adapter (#7551) (#7552), also by the Dual Communications Interface (#3461).

System/360 Model 20 with the Binary Synchronous Communications Adapter and using the BSCA-1 OCS Programming support. The new capability is provided by the BSC Adapter (#2074) for submodel 5; a new feature (#2720) provides the new capabilities for submodels 2 and 4. Additional new features provide special attachment capabilities for United Kingdom GPO Modem (#2717), for German PTT Modem (#2719), for Swedish PTT Modem (#2718).

IBM 1130 Computing System with the Synchronous Communications Adapter and using the Communication Subroutine. The new capability is provided by the Synchronous Communications Adapter (#7690) when operating with the IBM 3976 Modem Model 3.

IBM 2780 Data Transmission Terminal. The new capability is provided by new features --- Auto Answer (#1340), a 600/1200 bits per second speed selector switch (#2976) operable with the Synchronous Clock (#7705) or modem clock and special attachment capabilities for the IBM 3976 Modem Model 3 (#2977), for the United Kingdom GPO Modem (#2978), for the Swedish PTT Modem (#2979), and for the German PTT Modem (#2980).

Prices

Description	Feature No.	Rental (MAC)	Purchase	MMMC
2701-Specify: Operation of Synchronous Data Adapter-Type II (#2899) or Dual Communications Interface (#2901) on Switched Telephone Network in Sweden.	2972	----	Specify	----
2701- 600/1200 Selectable Synchronous Clock	2973	$50.00	$2,000.00	$ .50
2703-Specify: Operation of Synchronous Line Set #(2902) on Switched Telephone Network in Sweden or United Kingdom	2975	----	Specify	----
System/360 Model 20:				
BSC Adapter for Submodel 2 and 4	2720	425.00	17,000.00	16.50
Attach UK GPO Modem	2717	5.00	200.00	N.C.
Attach German PTT Modem	2719	5.00	200.00	N.C.
Attach Swedish PTT Modem	2718	5.00	200.00	N.C.
2780 Data Transmission Terminal:				
Auto Answer	1340	15.00	15.00	1.00
600/1200 bps Speed Select Switch	2976	5.00	220.00	.50
Attach IBM 3976-3 Modem (Specify)	2977	----	Specify	----
Attach UK GPO Modem	2978	10.00	440.00	.50
Attach Swedish PTT Modem	2979	10.00	440.00	.50
Attach German PTT Modem	2980	10.00	440.00	.50

Availability - Programming

Availability of the BSC programming support for World Trade Switched Telephone Networks is described in Programming Letter P69-52B.

Additional IBM Programming is not required for the 1130 to operate on the Switched Network with the IBM 3976 Modem Model 3.

Availability - Hardware Capabilities and related features:

Hardware capabilities and related features will be available for first customer shipment as follows:

2701 -	SDA-Type II and Dual Communication Interface Capability of Operation on World Trade Switched Network	September 1969
	- 600/1200 Selectable Synchronous Clock	September 1969
2703 -	Synchronous Line Set Capability of Operation on World Trade Switched Network	September 1969

System/360
Model 25
with ICA

	- Synchronous Data Adapter and Dual Communications Interface Capability of Operation on World Trade Switched Network	September 1969

System/360
Model 20

	- BSCA Capability of Operation on World Trade Switched Network	May 1969
1130 -	Synchronous Communications Adapter Capability of Operation on World Trade Switched Network with IBM 3976 Modem Model 3	Published delivery schedule
2780 -	Capability of Operation on World Trade Switched Network	September 1969
	- World Trade Card Codes and Associated Graphics (See WT Type Catalog)	Published Delivery Schedule Alteration Notices require 90 days from date of receipt of order at Milan, Italy, Plant of Manufacturing

Publications

Technical Newsletters (TNL) for the machine SRL's effected by this announcement will be available within 30 days after announcement. Procedures recommended to be used in establishing a call on the World Trade Switched Telephone Networks will be included in an SRL.

Availability of the TNL's will be announced in a forthcoming Publications Release Letter. Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Pa.

The publications supporting programming are described in the Programming Letter P69-52B.

RPQ Support

RPQ's on all announced items, and 2780, may be processed immediately following this announcement. 2780 RPQ's may be processed 60 days after this announcement. RPQ's for the 2020, or 2025 for manually controlled 600/1200 bps speed selector switch on the Synchronous Clock may be processed immediately following this announcement. RPQ's for the 1130 for operation with PTT modems, or for controlling the "Data Signalling Rate Selector" lead of the modem from the Speed Selector Switch on the 1130, may be processed immediately following this announcement.

Teleprocessing Marketing Practices for Operation on PTT Switched Telephone Network – System Assurance

All country Switched Telephone Networks do not perform equally well. Therefore with regard to this announcement reliable transmission at 600 and/or 1200 bits per second on all country networks cannot be assumed. Your Teleprocessing Coordinator can advise you generally in this matter. Prior to proposal, Country Systems Assurance must

make final judgment as to the speed or speeds which can be safely proposed. It is recommended that you review page #4 of the general information section of the World Trade Sales Manual entitled Teleprocessing Marketing Practices for compliance prior to making any proposal for operation on the Switched Telephone Network.

OPERATION ON LEASED TELEPHONE FACILITIES IN JAPAN (C)

New capabilities and new machine features for Japan enable operation with the Nippon Telephone and Telegraph (N.T.T.) modem type DT 1203 on leased point-to-point telephone facilities for the following Binary Synchronous Communications (BSC) devices:

IBM 2701 Data Adapter Unit --- new feature, Synchronous Data Adapter Type II (#2970), and Dual Communications Interface (#2971).

IBM 2703 Transmission Control Unit --- new feature, Synchronous Line Set (#2974).

System/360 Model 25 with Integrated Communications Adapter --- new features, Synchronous Data Adapter (#2727) for first line, (#2728) for second line, and Dual Communication Interface (#2729).

Prices

Description	Feature No.	Rental (MAC)	Purchase	MMMC
2701-Synchronous Data Adapter-Type II (Japan)	2970	$335.00	$15,075.00	$19.00
2701-Dual Communications Interface (Japan)	2971	21.00	950.00	1.00
2703-Synchronous Line Set (Japan)	2974	420.00	16.800.00	6.50
System/360 Model 25				
SDA First Line (Japan)	2727	250.00	12,500.00	16.00
SDA Second Line (Japan)	2728	250.00	12,500.00	16.00
Dual Communication Interface (Japan)	2729	55.00	2,750.00	1.00

Available – Programming

Additional IBM Programming is not required for operation on Leased Japanese Telephone facilities.

Available – Hardware

2701 - SDA-II and Dual Communication Interface (Japan)		September 1969
2703 - Synchronous Line Set (Japan)		September 1969
System/360 Model 25 ICA - Synchronous Data Adapter and Dual Communications Interface (Japan)		December 1969

Systems Assurance

All proposals involving these features must be reviewed by Country or Area Systems Assurance.

John Fahey
Director of DP Marketing

Product Announcement

IBM SYSTEM/360 MODEL 67
TIME SHARING SYSTEM (TSS/360)

Removal of Controlled Marketing Restrictions ... Since the initial release of TSS/360 in October 1967, we have directed our efforts to improving the system's performance, reliability and human factors. With the release of Version 4 of TSS in January, 1969, the programming system provides functional, performance and reliability characteristics which represent significant improvements over previous versions of the system.

Therefore, Area management and WTHQ approval will no longer be required for System/360 Model 67 proposals. Furthermore, effective August 31, 1969, customers ordering TSS/360 from the program libraries will not have to be notified in writing of any TSS productivity or performance restrictions.

All proposals for System/360 Model 67 are subject to System Assurance in accordance with WTC DP Sales Manual pages GI 1-3.

Additional Support ... In conjunction with our efforts in improving system capability, support for Remote Job Entry (RJE) via IBM 2780 work stations and a PL/I F level compiler will be added to TSS/360. Further information on these extensions appears in Programming Letter P69-48.

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.

Model Conversions ... Effective immediately, RPQs will no longer be accepted for model conversion between the 2067 Model 1 and 2067 Model 2 and between the 2365 Model 2 and 2365 Model 12. All customers with installed and on-order 2067 Model 1s must be informed in writing of this limitation.

John Fahey
Director of DP Marketing

Attachment [1]:   Type Catalog 9

Distribution: All Areas

Product Announcement

MEMORY CAPACITY DOUBLED FOR
S/360 MODEL 65 MULTIPROCESSING SYSTEM

The capability of the IBM System/360 Model 65 shared main storage multiprocessing system is being extended through the announcement of four new memory options, making available a maximum of 2,097,152 bytes of high speed memory.

Together with the programming enhancements made since introduction of the Model 65 Multiprocessing System, today's announcement extends the advantages cited at announcement time:

Growth

. System/360 compatibility, fully supported by OS/360 (MVT)
. Increased CPU, channel and now memory capacity.

Improved Utilization of Resources

Improved resource management and operational economics are possible on the Model 65 Multiprocessing System through the single supervisor, the single queue and single volume, program library and data bank maintenance.

Each processor has up to seven channels and shares I/O devices through the existing two-channel switch features, in addition to asymmetric support announced for the single path 2701, 2848, and 2840 control units.

With this announcement, the memory resource can be doubled, allowing the two million bytes of main core storage to be shared by the processors, with all problem-program main storage locations available for allocation to any jobs. The expanded problem-program space extends the extent of multiprogramming and thereby the ability of OS/MVT to optimize the expanded channel and I/O resources made available by the Model 65 Multiprocessing System.

Configuration Flexibility ... Using the extended VARY Commands and the configuration control panel, any combination of units, including devices, channels, memory boxes and CPUs can be partitioned or reconfigured into a subsystem for such things as emulation, maintenance and system programmer testing.

The system may operate in two distinct modes: either of the processors may run as a separate stand-alone system, or they may be run as a single multiprocessing system. It is now possible to configure separate systems up to one million bytes each operating under DOS/360, OS/360, PCP, MFT-II or MVT, or any combination from one half to two million bytes under OS/360 MVT Model 65 Multiprocessing.

Critical System Availability ... This is enhanced by several Model 65 Multiprocessing system features.

Reconfigurability of all units permits a failing component to be quickly partitioned out of the system. Computing can continue with a minimum of interaction and maximum computing power from the remaining units preserved. This configuration flexibility is extended by allowing additional memory boxes within a Model 65 Multiprocessing system.

Recovery Management Support automatically reduces the effects of a significant number of intermittent failures in the CPUs, memory, channels, and I/O devices. This comprehensive announced support is extended to cover the additional memory made possible by today's announcement with dynamic reconfiguration of storage in increments of 2K. (See P68-2 for RMS, P69-12 for I/O RMS and P69-14 for Storage Reconfiguration for Model 65 Multiprocessing.)

Prices ... The attachment of the fifth through the eighth 2365 on a Model 65 Multiprocessing System is accomplished through additional features on both 2065-J CPUs and on each 2365 added.

Net additional cost of features and 2365s is as follows:

	MAC	Purchase	MMMC
For 1,310,720 bytes (5th 2365)	$10,880	$467,280	$ 682
For 1,572,864 bytes (5th & 6th 2365)	21,360	914,960	1,314
For 1,835,008 bytes (5th,6th, & 7th 2365)	31,840	1,362,640	1,946
For 2,097,152 bytes (5th,6th,7th & 8th 2365)	42,320	1,810,320	2,578

See reverse side for program and publications support and other details

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

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Growth

. System/360 compatibility, fully supported by OS/360 (MVT)
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The system may operate in two distinct modes: either of the processors may run as a separate stand-alone system, or they may be run as a single multiprocessing system. It is now possible to configure separate systems up to one million bytes each operating under DOS/360, OS/360, PCP, MFT-II or MVT, or any combination from one half to two million bytes under OS/360 MVT Model 65 Multiprocessing.

Critical System Availability ...
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Prices ...
The attachment of the fifth through the eighth 2365 on a Model 65 Multiprocessing System is accomplished through additional features on both 2065-J CPUs and on each 2365 added.

Net additional cost of features and 2365s is as follows:

	MAC	Purchase	MMMC
For 1,310,720 bytes (5th 2365)	$10,880	$467,280	$ 682
For 1,572,864 bytes (5th & 6th 2365)	21,360	914,960	1,314
For 1,835,008 bytes (5th,6th, & 7th 2365)	31,840	1,362,640	1,946
For 2,097,152 bytes (5th,6th,7th & 8th 2365)	42,320	1,810,320	2,578

See reverse side for program and publications support and other details

John Fahey
Director of DP Marketing

Distribution: All Areas

Program Support ... Model 65 Multiprocessing Support is an integral part of OS/360 (MVT). A Review of the following announcements will illustrate the full support of this system:

P68-2	Initial program announcement	1/3/68
P68-107	Advanced Checkpoint/Restart	7/24/68
P68-109	2420 & 1600 BPI Tape Support	8/1/68
P69-12	I/O RMS	1/12/69
P69-14	Four path support for 2816 2844/2314 and Storage Reconfiguration	1/22/69
P69-28	Rollout/Rollin Restriction Removed	2/14/69
P69-30	Multiple Console Support	2/27/69
P69-39	Graphic Restrictions Removed Limited Asymmetric Configuration Support	3/19/69
P69-43	OS/360 Release 17 Including MVT Model 65 Multiprocessing	3/27/69

Support for high speed storage increments between one and two million bytes is unique to OS/360 MVT Model 65 Multiprocessing. This support will be available October 31, 1969.

Delivery ... Initial availability of the additional memory features will be in October 1969. This includes field as well as plant orders.

Physical Appearance ... The additional 2365 storage boxes are installed on a separate wall section which is then cable connected to the main wall section containing the CPUs. This new wall is built from left to right as the fifth, sixth, seventh and eighth boxes of storage are added. All cable terminations are in the fifth attachment feature and from there are cabled to both ends of the main wall section. There is a limitation of a maximum cable run of 50 feet for the entire loop. The new wall section can be placed in any position around the main wall section as long as the fifth attachment is closest to the main wall and the cable limitation is met.

Publications ... Sales & Systems Guide (Y20-0377-0); a TNL to Model 65 Multiprocessing (C28-6671-1); and a promotional brochure (520-2056-1) will be available. Advance copies will be shipped. Additional copies will be obtainable from the IBM Distribution Center, Mechanicsburg, Pa.

RPQ ... New RPQs for systems with the additional storage features will be accepted 90 days after this announcement. Response time depends upon complexity of the request. Delivery of approved RPQs will begin no earlier than six months after first customer shipment. On order or installed 2065 RPQs must be checked with Special Equipment Engineering prior to quoting RPQs for new additional storage orders.

*Ordering Details ...* For Additional Storage Attachment Features, order for both 2065 Processing Units:

Description	Feature	MAC	Purchase	MMMC
5th Strg. Attach.	1305	$225	$11,025	$30
6th Strg. Attach.	1306	50	2,450	5
7th Strg. Attach.	1307	50	2,450	5
8th Strg. Attach.	1308	50	2,450	5

Additional Wall Section Features. Order for each 2365 Processor Storage.

	Feature	MAC	Purchase	MMMC
Wall Section for 5th 2365-13	1315	$300	$14,700	$5
Wall Section for 6th 2365-13	1316	250	12,250	5
Wall Section for 7th 2365-13	1317	250	12,250	5
Wall Section for 8th 2365-13	1318	250	12,250	5

Prerequisites ... 1305 requires either 4951 or 4952 on a 2065 Model J; 1306 requires 1305; 1307 requires 1305 and 1306. 1308 requires 1305, 1306 and 1307. 1315 requires 1305 on both 2065s. 1316 requires 1305 and 1306 on both 2065s. 1317 requires 1305, 1306 and 1307 on both 2065s. 1318 requires 1305, 1306, 1307 and 1308 on both 2065s. Features 1315, 1316, 1317 and 1318 are available on 2365 Model 13 only.

Sales Compensation Plan ... Normal Provisions apply.
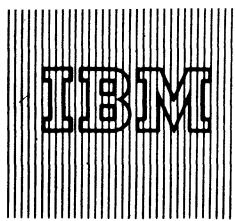
Product Announcement

60 Hz IBM 2311 DISK STORAGE DRIVE, MODELS 11 AND 12, PRODUCTION STATUS CHANGED

Effective September 1, 1969, the production status of 60 Hz IBM 2311 Disk Storage Drives, Models 11 and 12 will be changed to "Not in New Production."

Existing orders for new equipment will be honored, if within the published WT delivery schedule. New production will cease on August 31, 1969. New equipment scheduled for delivery after August 1969, if not rescheduled to earlier than September 1, 1969, or cancelled, will be shipped to the ordering country for warehousing until the required shipping date. Orders received after this announcement for shipment after August 31, 1969 will be supplied with "Reconditioned Equipment."

All customers so affected must be notified immediately.

50 Hz production of these units remains in "New" production.

PURCHASE PRICE CORRECTION AUTO ANSWER FEATURE NO. 1340 FOR THE IBM 2780 TRANSMISSION TERMINAL

As cable announced on April 18, DP Letter No. 69-224, dated April 11, 1969 incorrectly quoted the Purchase Price of the 2780 Auto Answer Feature (No. 1340) at $15.00. The correct price is $660.00. All affected by this should be promptly notified.

John Fahey
Director of DP Marketing

Distribution: All Areas
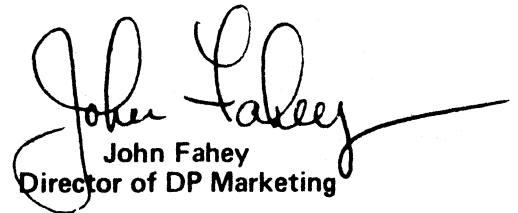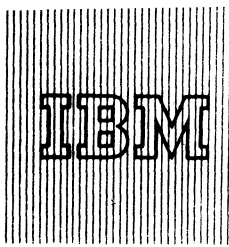
Product Announcement

CHANGE IN PRODUCTION STATUS
OF 60Hz IBM 2030 PROCESSING UNIT

Effective July 1, 1969 the production status of 60Hz 2030 will be changed to "Not in New Production." Existing orders for 60Hz 2030's requiring "New" production will be honored provided shipment from the Canadian Plant is made by June 30, 1969. Such existing orders requiring shipment after June 30, 1969 unless improved, or cancelled, will be shipped to the ordering country for warehousing until the required shipping date.

Subsequent orders for 60Hz 2030's will be fulfilled as "Reconditioned."

John Fahey
Director of DP Marketing

Distribution: All Areas
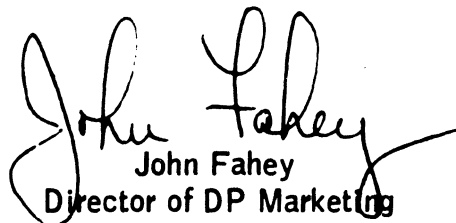
Product Announcement

FIELD MODEL CHANGES WITHDRAWN
FOR IBM 1287 OPTICAL READER

Effective immediately, customer requests
for previously announced IBM 1287 Optical
Reader field installed model changes --
Model 1 to Model 3 or Model 2 to Model 4
-- will no longer be accepted.

Current backlog orders for field model changes
will be honored on their presently assigned
schedules. Customer initiated deferments
may subject the field model change orders to
cancellation.

Purchase customers, who may in the future
desire the model upgrade change to be made
in the field, may submit an RPQ. Please re-
view GI Page 8 regarding the cautions in this
area.

All affected customers must be promptly
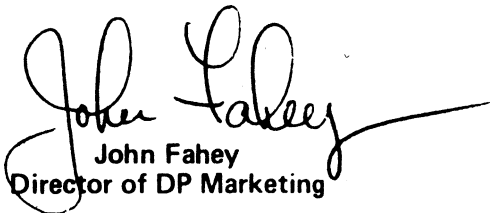notified.

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

CHANGE IN PRODUCTION STATUS OF 50Hz IBM 2030 PROCESSING UNIT

Effective April 15, 1970 the production status for 50Hz 2030's will be changed from "New" to "As Available." Existing and future orders placed by June 30, 1969 for 50Hz 2030's will be filled as "New" provided shipment is requested by April 15, 1970. "New" equipment scheduled for delivery after April 15, 1970, unless improved, or cancelled, will be shipped to the ordering country before April 15, 1970 for warehousing until the required shipping date.

Orders received after June 30, 1969 will be filled on an "As Available" basis unless openings exist for "New" equipment and shipment is made prior to April 15, 1970.

John Fahey
Director of DP Marketing

Product Announcement

NEW TERMINAL ADAPTER FOR 2701 HAS INCREASED CAPABILITIES

A new IBM Terminal Adapter Type I, Model II (4640) is now available for the 2701 Data Adapter Unit.

The new adapter, in addition to having all the terminal communication capabilities of the present IBM Terminal Adapter Type I (4645, 4646), is capable of communication with the improved 2740 Communication Terminal, Model 2, (see Installation Newsletter 69-03, dated February 14, 1969) and is compatible with the Dynamic Buffering feature of QTAM programs.

The new adapter is available with one of two line speeds: Specify Speed Selection (9581) for 134.5 bps, or Speed Selection (9582) for 600 bps.

Effective immediately, IBM Terminal Adapters Type I (4645 and 4646) for the 2701 are withdrawn from the product line.
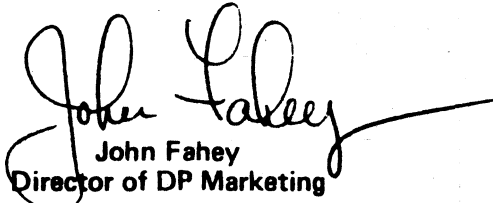
Prices for the new adapter (4640) are the same as those for the withdrawn adapters (4645 and 4646).

Administrative Provisions:

1. An MES (at no charge) for Feature 4640 with the proper Speed Selection should be submitted for those leased or purchased 2701s presently installed which meet the following criteria:

   A. Equipped with either 4645 or 4646, and operating with a 2740 Communication Terminal, Model 2 or

   B. Equipped with either 4645 or 4646, and utilizing the Dynamic Buffering Feature of QTAM.

2. Effective immediately, all orders for the 2701 Data Adapter Unit will be shipped with the 4640 adapter in place of the 4645 or 4646 adapters.

Action Required...

1. Delete Feature 4645 or 4646 from all on-order 2701 Alteration Notices. Feature 4640 with proper Speed Selection should be added.

2. All affected customers should be advised of this change.

John Fahey
Director of DP Marketing

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* Distribution: All Areas

Marketing Announcement
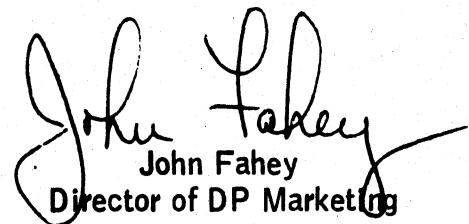
INTERCHANGEABILITY OF THE IBM MAGNETIC TAPE 72 TYPEWRITER AND IBM 050 MAGNETIC DATA INSCRIBER TAPE CARTRIDGES

Both the IBM Magnetic Tape 72 Typewriter and IBM 050 Magnetic Data Inscriber Tape Cartridges are manufactured according to identical specifications. Only the cassette (smoky or clear) permits the operator to recognize whether their use is MT 72 or MDI 050.

The code structure used by MDI 050 (EBCDIC) differs from MT 72 (Kentucky Code), and the magnetic properties of the two inscribers are not the same.

These differences may result in problems such as incomplete erasures; therefore, the two types of cartridges should not be used interchangeably on the inscribers.

This does not affect the possible reading of 050 as well as MT 72 Tapes into a system via the IBM 2495 Tape Cartridge Reader.

John Fahey
Director of DP Marketing

Distribution: All Areas
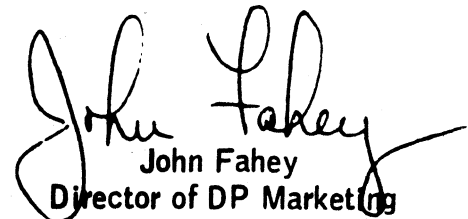
Product Announcement

MES SCHEDULE CLARIFIED FOR S/360 MODEL 20 SUBMODELS 3, 4

Field installation of additional main storage core memory (within the same submodel) for System/360 Model 20 submodels 3 and 4 is available on normal MES lead time beginning immediately after first customer shipment.

Shipments of all other MES's for field installation are now being made.

This information is intended to clarify and in no way alters earlier commitments.

John Fahey
Director of DP Marketing

Distribution: All Areas

Miscellaneous Announcement

**BRANCH OFFICE
RPQ REFERENCE LIST**

Occasionally, non-standard machine functions or special features are required to satisfy customer system design requirements. When this is the case, a Request for Price Quotation (RPQ) is used to request a price for a custom-engineered feature, modification, or special product that can handle the application. A Branch Office RPQ Reference List (Form No. Z19-0007) consisting of the most commonly supplied RPQ's is now available. This publication has been distributed, through DAPS, to your Literature Coordinators and additional copies are available from the IBM Distribution Center, Mechanicsburg, Pa.

This list is designed for use at the Branch Office level. To order a listed RPQ, it is only necessary to submit a DP Machine Order (DPMO) or Miscellaneous Equipment Specification (MES) as you would for a standard machine or feature order. No RPQ form is necessary. See WTC Instruction Manual, Section 2-10, Machine (M) pages.

Revisions will be made on a quarterly basis and addendums issued as required between quarterly issues.

John Fahey
Director of DP Marketing

Attachments [2]:   RPQ 1 and RPQ 5

Distribution: All Areas
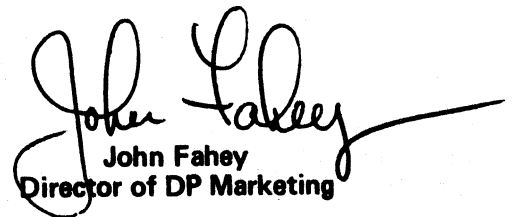
Product Announcement

2050 SHARED PROCESSOR STORAGE FEATURE WITHDRAWN FROM PRODUCT LINE

Effective immediately the 2050 Shared Processor Storage Feature (7130) is withdrawn from the IBM product line. Orders will no longer be accepted.

Customers with orders now in the backlog will be offered a scheduled delivery date. The customer should be informed that failure to accept the scheduled delivery date, or any delay or postponement of an order in the backlog, may result in cancellation of that order.

John Fahey
Director of DP Marketing

Distribution: All Areas

Education Announcement

REMOTE ACCESS COMPUTING
SYSTEM (RAX) EDUCATION
GUIDE TO TEACH RAX TERMINAL
OPERATION

This Education Guide (R20-4125) is
designed to assist in training the FOR-
TRAN user to enter and run programs
and data from a terminal using RAX.

The Guide consists of a teaching outline,
foil masters and a set of 12 student ex-
ercises and solutions. The foils provide
the instructor with ready made examples
that illustrate how to use RAX. The ex-
ercises and solutions enable the instruct-
or, with a minimum of preparation on his
part, to offer the student the experience
of performing programming and operations
at a terminal using all of the RAX Termin-
al Command Language statements.
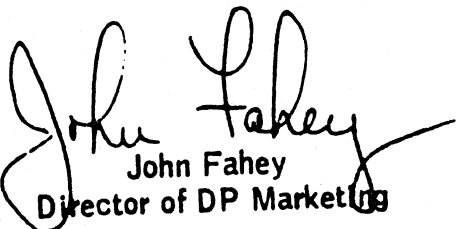
The Education Guide is designed to teach
the student how to perform these principle
functions at a terminal:

- Enter source programs for compilation
    and execution
- Save source or object programs on a
    library disk
- Add, delete and change statements
    in saved source programs
- Compile and execute saved programs

- Save data on a library disk
- Add, delete and change records
    in saved data
- Provide access to saved data
    during the execution of a
    program

Advanced copies of the Education
Guide (R20-4125) have been shipped.
Additional copies are available from the
IBM Distribution Center, Mechanics-
burg, Pennsylvania.

For more information and complete
material requirements, read the course
description (R20-9240). The avail-
ability of this publication will be announc-
ed in a future Publications Release
Letter. Advance copies will be shipped.
Additional copies will be available from
the IBM Distribution Center, Mechanics-
burg, Pennsylvania.

John Fahey
Director of DP Marketing

Distribution: All Areas

SELF-CHECKING NUMBER FEATURE AVAILABLE FOR IBM 50 MAGNETIC DATA INSCRIBER

A Self-Checking Number feature is now available for the IBM 50 Magnetic Data Inscriber. This feature automatically checks the validity of pre-determined numbers during the recording of the number. The feature on the IBM 50 is functionally similar to that offered for the IBM 24, 26, and 29 card punches.

Prices

	Feature	MAC	Purchase	MMMC
Self-Checking Number				
Modulus 10	7061	$30	$1,650	$9
Modulus 11	7062	35	1,925	9

The Self-Checking Number feature will be factory installed only and will be manufactured in Greenock, Scotland. First customer delivery will be in December, 1969.

Advance copies of Technical Newsletter (N22-0331) which describes this feature have been shipped and additional copies are available from the IBM Distribution Center, Mechanicsburg, Penna.

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

2420 MODEL 5 LIMITATION

The 2420 Model 5 cannot be attached to a Model C (8,192 bytes) of the System/360 Model 30. Diagnostics supporting the Model 5 require a 16K Central Processing Unit.

*LIMITED AVAILABILITY OF "NEW" 60Hz IBM 2311 DISK STORAGE DRIVES, MODELS 1, 11, and 12

A limited number of "New" 60Hz IBM 2311 Disk Storage Drives, which are being produced by the Mainz Plant in West Germany, will be available in six months. Orders may now be submitted.

When a "New" 2311 is required, delivery must be made within six months from the ordering date, and it must be individually scheduled with the Mainz Plant.

Reconditioned 60 cycle Hz 2311 Models 1, 11, and 12 are still available from the San Jose Plant.

John Fahey
Director of DP Marketing

*Reference: DP Letters 69-222 and 69-227

Distribution: All Areas

Product Announcement

IBM 2770 TERMINAL SYSTEM LATEST TO JOIN IBM'S BINARY SYNCHRONOUS FAMILY

A new modular high-performance terminal system significantly enhances the IBM terminal capability. It is the IBM 2770 Data Communication System designed for general purpose use in batch and/or conversational environments. The IBM 2770 is a member of the Binary Synchronous Communications product family.

System Components:

* 2772 Multi-Purpose Control Unit with keyboard, a buffered unit capable of transmitting EBCDIC or USASCII code at speeds up to 2400 bps.
* 2213 Printer Model 1 and 2 operates at speeds up to 66 cps. Model 2 offers vertical forms control.
* 2265 Display Station Model 2 features 960 character alpha-numeric display.
* 2502 Card Reader, Models 1 and 2 reads at 150 cpm and 300 cpm respectively.
* 545 Output Punch Model 3 punches at 20 cps, the Model 4 prints and punches at 18 cps.
* 1017 Paper Tape Reader accepts 5, 6, 7, or 8 track tape for transmission at 120 cps. Model 2 includes a tape-up reel.
* 1018 Paper Tape Punch creates 5, 6, 7, or 8 track tape at 120 cps.
* IBM 50 Magnetic Data Inscriber accepts standard IBM magnetic cartridge as input, operating at 117 cps.
* 1255 Magnetic Character Reader Model 1 handles at 500 six inch documents per min. off-line, 270-400 on-line.

Highlights:

Dual Purpose Terminal capable of batch and/or conversational mode.

Applications:

* Order Entry
* Invoicing
* Status Reporting
* Data Collection
* Accounting
* Inventory Control
* Payroll
* Remote Job Entry

Choice of Media includes:

* Punched Cards
* Punched Paper Tape
* Printer Output
* Magnetic Tape
* MICR
* Visual Display

Operating Modes:

* Point to Point
* Multi-Point
* On-Line, Off-Line
* Home Loop
* Leased Line
* Switched Network

A maximum configuration consists of the standard keyboard, the optional printer, and any two of the following:

* Visual Display
* MICR
* Card Reader and/or Punch
* Paper Tape Reader and/or Punch
* IBM 050

All input/output units may be field installed.

Attaches to another 2772, System 360/Model 25 through 91 via 2701, 2703, or Model 25 ICA, using point-to-point (on switched or non-switched networks) or multi-point (on non-switched networks). The 2772 may be multi-dropped on the same line with other BSC devices (2780, 1130, 360/20) using a System/360 (Model 25 through 91) as the control station.
Processor interrupt allows the CPU to interrupt an incoming data flow from the 2770-take over the line-and transmit.

Delivery:

First customer shipment, August 1970.

Special Features:

* Buffer Expansion - doubles the buffer size (to two 256 character buffers) and provides multi-record transmission.
* Multi-Point Data Link Control - allows multiple 2772's or other Binary Synchronous Terminals to be used on the same communications line with a CPU.
* Automatic Answering - automatically answers incoming calls from another terminal or CPU using dial communications facilities.
* Identification - automatically transmits a two character sequence when connection is established on dial communications facilities.

- Synchronous Clock - provides clock pulses when data set without internal clocking is used.
- Transmit-Receive Monitor Print - allows printing of data after it has been successfully transmitted or received to or from media (cards, paper tape, or magnetic tape).
- EBCDIC Transparency - provides for transmission of all EBCDIC codes as data characters.
- Keyboard Correction - provides for Backspace/Correction and New Line Correction of data in the control unit buffer.
- Conversational Mode - allows control unit to accept a text response as the acknowledgement to an inquiry without having to be selected prior to receiving the response.
- Display Format Control - provides features of horizontal tabulation and data protection.

RPQ Support:

- RPQ will be accepted immediately following announcement. Response to these RPQ's may require 120 days.
- Shipment of the units with RPQ's will be a minimum of 120 days following first customer shipment. Actual lead time is dependent on the complexity of the RPQ's.

Programming:

- The Binary Synchronous Communications support under DOS/360 BTAM, OS/360 BTAM, OS/360 TCAM, and OS/360 RJE support is being extended to include the IBM 2770 Data Communication System.
- The DOS/360 BTAM support available June 1970.
- The OS/360 BTAM support available September 1970.
- The OS/360 RJE support available September 1970.
- The OS/360 TCAM support available in first quarter, 1971.

Publications:

The following programming publications will support the 2770 announcement:

- IBM System/360 Operating System Planning for IBM 2770 RJE Support # C30-2015.

- IBM System/360 Operating System Telecommunications Access Method (TCAM)

- IBM System/360 Operating System

- Disk Operating System

- Planning for Improved BTAM Support for Remote BSC Stations # C30-1005-0

IBM 2770 SRL Publications include:

- IBM 2770 System Summary (A27-3014) Available at Announcement. IBM 2770 Configurator (A27-3018) Available within two weeks.

- IBM 2770 Systems Components
  IBM 2770 Installation Manual - Physical Planning

  2770 Brochure (520-2143)

Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Pennsylvania.

Education Allowance:

Allowance of 10% applies to IBM 2772, 2213, and 2502. The IBM 1017 and 1255 as components of this system have no educational allowance.

Test Allowance:

There is no Test Allowance on this system.

Systems Assurance:

The 2770 will be subject to System Assurance review.

Marketing Compensation Plan:

Normal sales compensation plan provisions apply.

Out of Territory Points:
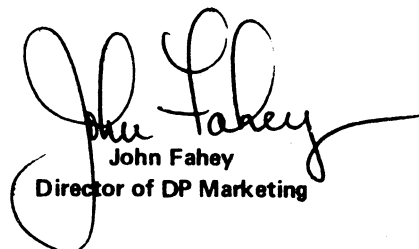
Class	Group	Type	I/D	Points
B	86	2772	2772	700

DP Orders and Movements Codes:

Type	Model	Product Category	Product Line
2772	1	39	6
2502	A1,A2	39	6
2265	2	39	6
2213	1, 2	39	6
1017	1, 2	39, 59, 62, 92, 93	6
1018	1	39, 59, 62, 92, 93	6
545	3, 4	05, 39	1
050	1	05, 39	1

Appropriate sales manual pages will be distributed in the near future.

See special attachment to this letter for Price List.

John Fahey
Director of DP Marketing

PRICES:

	M/SF	Rental(MAC)	Purchase	MMMC
545 Output Punch (non-Printing)	Model 3	$116	$5,195	$47
545 Output Punch (Printing)	Model 4	136	6,365	47

Rental Plan: "B"   Purchase Option: 55%   Maintenance: C   Per Call: 1

Special Features

	M/SF	Rental(MAC)	Purchase	MMMC
Punch 81 Indicator	5550	$ 4	$ 220	N/C

	M/SF	Rental(MAC)	Purchase	MMMC
1017 Paper Tape Reader	Model 1	$ 50	$2,400	$14
1017 Paper Tape Reader	Model 2	75	3,675	17

Rental Plan: "B"   Purchase Option: 40%   Maintenance: C   Per Call: 2

	M/SF	Rental(MAC)	Purchase	MMMC
1018 Paper Tape Punch	Model 1	$125	$5,560	$40

Rental Plan: "B"   Purchase Option: 35%   Maintenance: C   Per Call: 2

	M/SF	Rental(MAC)	Purchase	MMMC
1255 Magnetic Character Reader	Model 1	$837	$40,190	$218

Rental Plan: "A"   Purchase Option: 40%   Maintenance: C   Per Call: 2

Special Features

	M/SF	Rental(MAC)	Purchase	MMMC
1255 Dash Symbol Transmission	3215	$51(SUC)	$ 36	·N/C
1255 51-Column Card Sorting	4380	16	749	·N/C
1255 Self Checking Number	7060	51	2,423	3
1255 Adapter for the 2772	7850	46	2,179	3
1255 Balance Counter List	1470	70	3,390	6

	M/SF	Rental(MAC)	Purchase	MMMC
2213 Printer	Model 1	$139	$6,118	$41
2213 Printer	Model 2	180	7,704	45

Rental Plan: "B"   Purchase Option 45%   Maintenance: A   Per Call: 2

Special Features

	M/SF	Rental(MAC)	Purchase	MMMC
2213 Forms Stand Stacker	4450	PURCHASE ONLY	$ 53.00	N/C
2213 Roll Paper Feed	6200	10	$520.00	N/C
2213 Pin Feed Platen		-------	65.50 (SUC)	N/C

	M/SF	Rental(MAC)	Purchase	MMMC
2265 Display Station	Model 2	$117	$5,647	$42

Rental Plan "B"   Purchase Option: 45%   Maintenance: A   Per Call: 2

	M/SF	Rental(MAC)	Purchase	MMMC
2502 Card Reader	Model A1	$116	$6,053	$42
2502 Card Reader	Model A2	151	7,264	42

Rental Plan: "B"   Purchase Option: 45%   Maintenance: A   Per Call: 2

Special Features

	M/SF		Rental(MAC)	Purchase	MMMC
2502 51/80 Column Interchange-able Feed	4650		$26	$1,310	$14
2502 66/80 Column Interchange-	4651		26	1,310	14

	M/SF	Rental(MAC)	Purchase	MMMC
2772 Multi-Purpose Control Unit	Model 1	$276	$12,126	$56

Rental Plan: "B"   Purchase Option: 45%   Maintenance: A   Per Call: 2

Special Features

	M/SF	Rental(MAC)	Purchase	MMMC
2213 Model 1 Attachment	8010	$26	$1,108	$ 8
2213 Model 2 Attachment	8700	26	1,108	8
2502 Model A1 Attachment	8020	60	2,662	1.50
2502 Model A2 Attachment	8021	60	2,662	1.50
545 Attachment	3950	35	1,555	3
1017 Attachment	7910	26	1,108	6
1018 Attachment	7915	21	915	7
2265 Attachment	8015	71	3,110	12
1255 Attachment	9765	N/C	N/C	N/C
50 Attachment, First	3940	41	1,778	1.50
50 Attachment, Second	7941	6	275	.50
Buffer Expansion	1400	26	1,108	11
Multipoint Data Link Control	6910	16	686	2
Automatic Answering	1340	10	458	1
Transmit - Receive Monitor Print	7950	21	915	3
EBCDIC Transparency	3650	10	458	1
Keyboard Correction	4690	5	229	2
Conversation Mode	1910	5	229	---N/C
Display Format Control	3250	5	229	---N/C
Identification	4610	10	458	1
Synchronous Clock	7705	26	1,108	3
Switched Network Attachment	2981	5	220	.50
Modem Attachment GPO Datel	2896	5	220	.50
Modem Attachment - Swedish without clock	2897	5	220	.50
Modem Attachment - Swedish with clock	2908	5	220	.50
Modem Attachment - German	2898	5	220	.50
Modem Attachment - 3977 Mod 2	2903	N/C	N/C	N/C
Modem Attachment - 3976 Mod 3 Leased Line	2983	N/C	N/C	N/C
Modem Attachment - 3976 Mod 3 Switched Network	2982	10	440	.50
Modem Attachment - Japan	2984	N/C	N/C	N/C

	M/SF	Rental(MAC)	Purchase	MMMC
50 Magnetic Data Inscriber	Model 1	ALREADY ANNOUNCED		

Special Features

	M/SF	Rental(MAC)	Purchase	MMMC
50 Attachment for the 2772	7850	$31	$1,664	$16

Product Announcement

IBM 2790 DATA COMMUNICATION SYSTEM PROVIDES NEW DIMENSION TO DATA ENTRY AND PLANT OPERATIONS

The IBM 2790 System opens new application areas by providing high speed two-way transmission of input via card, badge, key entry with visual display, and attachment of Other Equipment Manufacturers (OEM) digital devices simultaneous with output of time-of-day, operator guidance, and printer output. To extend data entry capability to individual work locations, low cost Data Entry Units allow numeric input by card, badge, and dial selection.

These components communicate over a two-wire in-house network which in turn communicates with System/360 Models 25 through 85, and the 1800 Data Acquisition and Control System, in either local or remote environment.

New Components:

- 2715 TCU Models 1 and 2 greatly reduce the System/360 processing time normally required to provide polling, record checking, and message routing.
- 2791 Model 2 Area Station is a control terminal which accepts data by punched card, employee badge, and key entry. A program-controlled display panel guides the operator as he steps through the data entry sequence, while a visual display verifies accuracy of data entered.
- 2791 Model 1 Area Station performs all of these functions and, in addition, can attach up to 32 Data Entry Units, a 1053 printer for hard-copy, up to three additional 1035 badge readers, and OEM digital read-in devices.
- 2793 Area Station provides attachment of the data entry units without the operator guidance features.
- 2795 and 2796 Data Entry Units are low cost, portable industrial units for reporting production status, material movement, or job completion. Designed for use by one or two employees at their work location, these units attach to the 2791 and 2793 Area Stations via a low-cost, in-house two-wire line for transmission at 40 cps. With the 2795, data can be entered by card, badge, and 2-position dial selection. With the 2796, data can be entered by card, badge, 4-position dial selection and manual entry of up to four digits of variable data.

Highlights:

- The 2790 can be used for a wide spectrum of applications in plant operations including production, equipment, and inventory status reporting, materials ordering and message routing.

Up to 100 Area Stations and 1024 Data Entry Units may be attached to each 2715. Transmission rate of approximately a half-million bits per second with approximate data transfer rate of 925 characters per second.

- Terminal control, record assembly, message routing, record checking and storage performed entirely by a micro-programmed 2715 which greatly increases the data communications capabilities of System/360.
- Integral disk in the 2715 provides up to 600,000 bytes of data storage.
- Automatic backup by transmission line segmentation, permitting operation of stations on a given segment, even though other segments of the line become inoperable.
  Industry Application Areas:

  Manufacturing (Material/Labor Movement)
  Hospitals (Patient In/Out)
  Schools
  Distribution (Warehouse)
  Government
  Airlines (Maintenance)
  Insurance (Policy Track)

  Can collect data and route messages in a "stand-alone" mode to provide interim backup in the event of a System/360 malfunction.
- Operation of the 2790 System on either a local or remote basis by direct attachment of the 2715 TCU to the multiplexor channel of a System/360 or via binary synchronous communication adapters at speeds up to 4800 bps.
- Operator guidance of data entry at the area station by means of customer selected instructions provides on-the-job training.
- Ability to enter both employee badge and either end of an 80-column card punched with 10 columns of numeric data in the same unit, provides low cost data entry.
- Ease of physical installation and relocation of terminal units by use of two-wire communication lines.
- Ability to enter data concurrently at an area station and its attached Data Entry Unit, while displaying time of day on the Area Station screen and printing output messages on the 1053 printer at the same location.

Delivery:

First customer shipment will commence in August 1970. The published delivery schedule will be announced in 120 days. Schedule dates for orders received during this 120 day period will be assigned by the appropriate allocating location on a sequential basis.

Programming Support:

Provided by a modification to System/360 DOS BTAM and to System/360 OS BTAM (Refer to P 69-XX).

RPQ's:

RPQ's on the 2790 Data Communication System including the 2715. 2791, and 2793 will be accepted 60 days after announcement. RPQ's will not be accepted for the 2795 and 2796. Shipment of units with RPQ's will be a minimum of 120 days after first customer shipment, with actual lead time dependent upon the degree of RPQ complexity.

RPQ No. Y68625 2968-8 Data Entry Unit Controller (1030 Starter Package) provides for the attachment of up to 32 Data Entry Units to a 1030 2-wire communication line. The controller and 1031A stations can co-exist on the same communication line with output to a 1034 card punch or to a CPU via a 2701, 2, 3 Transmission Control Unit. Record length and parity check of input data is performed by the 2968-8 controller.

This system allows customers of existing or proposed 1030 systems to take advantage of the low-cost Data Entry Units immediately while preparing for their 2790 System.

Special Features include:

- Data Entry Unit Adapter (additional 8 stations
- 1053 Printer attachment to receive CPU messages
- Monitor Control-permits selection of Data Entry input messages to be printed only, transmitted only, or printed and transmitted.
- Message Chaining-permits two entries from the same Data Entry Unit to be transmitted as a single transaction.

Educational Allowance:

Allowance of 10% applies to 2790 Components.

Program Test Allowance:

Allowance of 40 hours applies to 2715.

Publications:

- SRL A27-3016 - 2790 System Summary

- SRL A27-3015 - 2790 Components Description

- SRL A27-3017 - 2790 Installation - Physical Planning

- SRL A27-3021 - 2790 Configurator

- 2790 Operators Guide

- TNL to A21-9028-1 IBM 357/1030/2790 badge specifications

- General Promotional Brochure 520-2148

- Proposal Inserts 221-2170 for IBM 2715 and 221-2172 for IBM 2791 and 2793

The availability of the above publications will be announced in a future Publications Release Letter. Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Penna.

Field Conversion:

2791-2 can be converted to 2791-1
2791-1 cannot be converted to 2791-2

System Assurance:

The 2715 will be subject to System Assurance review.

DP Orders and Movement Codes:

Type	Model	Prod. Line	Prod. Category
2715	1, 2	7	40
2791	1, 2	7	40
2793	1	7	40
2795	1	7	40
2796	1	7	40

Sales Compensation Plan:

Additional on-schedule installation quota points apply as follows:

2715 - 2000 points
2791 - 200 points

plus 150% of this amount for the first of each kind installed in each branch office.

Out of Territory points apply as follows:

Class	Grp.	Type	I/O	Out-Territory Points
B	79	2715	2715	1500
B	84	2791	2791	200
B	85	2795/6	2795/6	65

Appropriate sales manual pages will be distributed in the near future.

See special attachment to this letter for Price List.

John Fahey
Director of DP Marketing

PRICE LIST FOR THE IBM 2790 DATA COMMUNICATION SYSTEM
(Special Attachment to Letter No. 69-259)

PRICES:

	M/SF	Rental(MAC)	Purchase	MMMC
2715 Transmission Control Unit	Model 1	$1,751	$87,690	$209
	Model 2	1,751	87,690	209

Rental Plan: "A" 10% Purchase Option: 50% Maintenance: B Per Call: 2

Special Features

	M/SF	Rental(MAC)	Purchase	MMMC
Line Transfer Switch - Third Unit	4751	$ 17	$ 848	$ .50
Two Processor Switch	8110	93	4,660	8.50
Dual Communications Interface	3460	38	1,920	.50
Local 2740 Adapter	4850	104	5,210	4.50
Synchronous Clock	7705	44	2,190	.50
Line Transfer Switch (Manual)	4750	17	848	.50
Expanded Capability	3801	328	16,440	12.50
WT Modem	2995	N/C	N/C	N/C

	M/SF	Rental(MAC)	Purchase	MMMC
2791 Area Station	Model 1	$208	$9,317	$46
	Model 2	154	7,673	46

Rental Plan: "B" Purchase Option 40% Maintenance: C Per Call: 1

Special Features

	M/SF	Rental(MAC)	Purchase	MMMC
1053 Printer, Attachment	8050	$23	$1,096	$1
1035 Badge Reader, Attachment	8030	17	848	1.50
Digital Device Read-In (OEM)	3330	11	565	.50
2795/2796 Attachment Basic	8295	28	1,367	2
2795/2796 Attachment Additional	8296	17	848	1

	M/SF	Rental(MAC)	Purchase	MMMC
2793 Area Station	Model 1	$137	$6,853	$19

Rental Plan: "B" Purchase Option: 45% Maintenance: C Per Call: 1

Special Features

	M/SF	Rental(MAC)	Purchase	MMMC
1053 Printer, Attachment	8050	$23	$1,096	$1
2795/2796 Attachment, Additional	8296	17	848	1

	M/SF	Rental(MAC)	Purchase	MMMC
2795 Data Entry Unit	Model 1	$21	$978	$4.25

Rental Plan: "B" Purchase Option: 45% Maintenance: C Per Call: 1

	M/SF	Rental(MAC)	Purchase	MMMC
2796 Data Entry Unit	Model 1	$26	$1,222	$6.25

Rental Plan: "B" Purchase Option: 45% Maintenance: C Per Call: 1
Education Allowance: 10%

	M/SF	Rental(MAC)	Purchase	MMMC
2968-8 Data Entry Unit Controller (RPQ)	Model 1	$234	$11,000	$14

Product Announcement

TERMINAL IDENTIFICATION FEATURE
AVAILABLE FOR IBM 2780 DATA
TRANSMISSION TERMINAL; MULTI-
POINT FEATURE NOW AVAILABLE
FOR FIELD INSTALLATION

Highlights

Terminal Identification feature is now a-
vailable for the IBM 2780 Data Transmis-
sion Terminal. The feature is available
for 2780 operation on public telephone
switched network using either USACII or
EBCDIC code on Models 1, 2, 3, or 4.
When the 2780 operator initiates a call
or is called by a central System/360 via
2701 or 2703, or via System/360 Mo-
del 25 via Feature (#4580), and a line
facility connection is established, the
2780 will automatically transmit a con-
tiguous two character terminal identifica-
tion code to the CPU. The CPU under
stored program control can therefore deter-
mine a 2780 legitimate Bi-Sync Terminal
user and distinguish between type(s) of
compatible Bi-Sync machines and their
associated I/O configurations and features.

The 2780, with this feature installed,
automatically accepts any leading graphics
received, but these graphics are ignored
as data.

This feature cannot be installed on a 6-
Bit Transcode machine and is not avail-
able for leased line facility operation.
The feature is field installable.

PRICES	Feature	MAC	Purchase	MMMC
Terminal Identification	7850	$25	$1,100	$2.00

Delivery

First customer shipments will commence
in December, 1969. Alteration DPMO's
must be submitted a minimum of 60 days
prior to the scheduled machine ship date.
An MES must be submitted for field in-
stalled machines with a 60 day lead time.
The first MES cannot be shipped before
May, 1970. The 2780 must be at EC
#307777 level or above. Machines
shipped since May, 1969, are at this
level.

Programming Support

A concurrent Programming Announcement
Release with Bi-Sync Update Improvements
is an announcement P69-95 of DOS/360
and OS/360 BTAM. This release covers
all IBM Bi-Sync products and associated
compatibilities for operating on public
switched network facilities.

Publication Support

Publication Support will be via a Techni-
cal Newsletter (TNL) which will be avail-
able approximately one month after this
2780 announcement.

RPQ's

RPQ's will be accepted for review one month
after announcement. Response time will de-
pend upon the complexity of the RPQ and
only those with wide general applications will
be considered.

Multipoint Feature (#5020)

Multipoint Feature (#5020) formerly
announced as a Plant Only installable
feature is now changed to provide for
field installation and removal. A
minimum of 30 days lead time is re-
quired for MES. First customer ship-
ment will commence in December, 1969.
The 2780 must be at EC #307777 level
or above.

John Fahey
Director of DP Marketing

NEW IBM 1800 FEATURES EXPAND SYSTEM'S GROWTH CAPABILITIES

Five new features and expanded programming capabilities for the IBM 1800 Data Acquisition and Control System make the system more useful to customers now than ever before.

Feature Highlights ... The five new features provide:

. Double the core capacity -- up to 65K in increments of 8,192 words.

. Selector Channel -- for attaching as many as eight IBM 2311 Disk Storage Drives. A two-channel switching option permits sharing a 2311 between two 1800's or between an 1800 and a S/360.

. Communication Adapter -- for Binary Synchronous Communication (BSC) over voice grade lines between an 1800 and System/360, between two 1800's, between an 1800 and 1130 Computing System, or between an 1800 and 2780 Data Transmission Terminal.

. Additional high-speed data channels -- for overlapped operation of system units or features that helps increase throughput significantly.

. 1800/2790 Data Communications System -- a low cost, two wire inplant communications system for the 1800 with new shop floor terminals.

Programming Highlights ... The Multi-programming Executive Operating System (MPX) -- has been enhanced as follows:

. New system residence capability -- The MPX system not only supports the 2311 disk as a storage device, but can now reside on either the 2311 or the 1810.

. Binary Synchronous Communications Support of S/360, the 1130, 2780 and other 1800's.

. Multi-tasking capability added -- Permitting concurrent operation of multiple subprograms within a Special Area (SPAR) type coreload.

. More software timers -- As many as 32 timers can be selected for use where periodic and timed execution are vital.

. Disk input to the FORTRAN compiler -- Now the FORTRAN compiler accepts source input from either the 1810 or 2311. Source updating capability is also provided.

. Keyboard input to Batch Processing Monitor -- Supervisor and Disk Management Programs are provided with a conversational mode of operation. This permits acceptance of an input stream from either of two 1816 printer keyboards or the 1442 card read punch.

Advantages ... The addition of the features and programming enhancements provide growth capability for existing 1800 installations. Customers can now expand their applications and integrate the 1800 system into large multicomputer configurations. New installations can be sold where the applications require a large data base, communication between computers, in-house large volume shop floor communications, or large-core resident executives. The additional core and large file capacity allow more effective use of the multiprogramming capability of the 1800.

Delivery ... First customer shipments and MES shipments are scheduled for June, 1970, with the exception of the 1800/2790 Data Communications System which is scheduled for September, 1970. MPX Version II also will be available in June, 1970. Delivery schedules are the same as for the 1800 system.
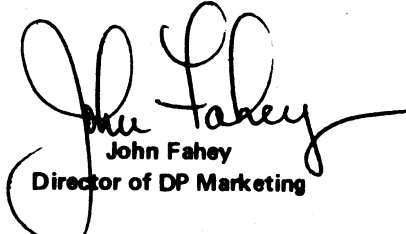
Sales Compensation Plan ... Normal provisions apply.

Prices ...

	MAC	Purchase	MMMC
1803 Mdls 2A	-------	$28,245	$ 66
2B	$1,460	46,405	66
2C	2,070	64,565	95
2D	2,675	82,720	120
2E	3,280	100,880	145
1803 Adapter (3703)	51	1,665	3.50
Data Channel Expander (3220)	66	2,620	11
Selector Channel (7710)	328	13,115	19
Comm. Adapter (7550)	232	9,285	49
1826 Mdl 3	136	4,745	6.50
*1800/2790 Adapter(7570)	655	26,230	39
Clock (7552)	7	291	.50
Line Adapter (7551)	172	6,820	20

Rental Plan: "B"   Purchase Option: 65%
Maintenance: B   Per Call: 2

See reverse side for additional information including RPQ procedures, publications support and feature descriptions.

John Fahey
Director of DP Marketing

*See DP Letter 69-259 for price of 2790 system units and features.

1803 Model 2A to 2E

This free standing unit can be located up to 13 feet from the 1801/1802. The 1803 provides core expansion in 8,192 word increments from 40,960 to 65,536 sixteen-bit words.

Announced units which now join the 1800 system are:

    2311 Disk Storage
    2841 Storage Control -- SF 8100 Two
        Channel Switch
    1035 Badge Reader

Description of Features

Selector Channel (7710) ... The 1800 Selector Channel provides a means of attaching a 2841 Control Unit with up to eight 2311s to the 1800 system. The large capacity 2311 Disk Storage unit with its fast access significantly increased the 1800 throughput. The 2841 Control Unit attaches to Position 1 on the selector channel. The other three control unit positions are available for attaching other S/360 Selector Channel devices by RPQ. The two-channel switch (8100) on the 2841 is available as an option to allow sharing of the 2311 disk between two 1800s or between an 1800 and a S/360.

Binary Synchronous Communications ... The communications Adapter (7550) provides for point-to-point and multipoint configurations in half-duplex mode for Binary Synchronous data transmission. Support is provided for connection to the 1130, another 1800, S/360 Models 25, 30, 40 and 44 (with commercial support), 50, 65, 67 (65 mode), 75, 85 and 91 or 2780 Data Transmission terminals. Prerequisite: This feature subject to Systems Assurance Review ... see "General Information".

Up to four communications adapters are attachable to the 1800 system. Each communications adapter can attach two line adapters. Either USASCII or EBCDIC transmission code can be used. Each line may select a transmission speed of 1,200 or 2,000 or 2,400 or 4,800 baud. Real-time process or data acquisition information can now be provided to interconnected processors through the communications adapter.

Data Channels ... The Data Channel Expander Feature (3220) provides the capability for six additional data channels (3222) beyond the presently allowed maximum of nine. Again, greater throughput results from these additional high-speed channels, permitting overlapped operation of system units and features.

1800/2790 Adapter (7570) ... Two 1800/2790 adapters are attachable to a single 1800 system -- each adapter permits attachment of 100 Area Stations in any combination. The 2791 and 2793 Area Stations attach to the 1800 via a two-wire high speed communication line operating at approximately 500,000 bits per second. The 2795 and 2796 Data Entry units attach to either area station (32 per station maximum) via a two wire slow speed line. Data entry at the Area Station is by card, badge and key. Visual message and time of day display is provided. For individual work locations, Data entry units provide one-way transmission of data entered by card, badge, and dial selection. Prerequisite: This feature subject to Systems Assurance Review ... see "General Information".

1803 Adapter (3703) ... for attaching 1803 core storage unit.

Line Adapter (7551) ... interface to attach data sets (modems).

Clock (7552) ... provides clocking for data sets that do not incorporate clocking.

Programming ... Version II of MPX provides the ability to update directly S/360 data banks through shared 2311 files. Furthermore, more effective system utilization is provided with the ability to disk input to the compiler. MPX enables programs to be compiled within a minimum partition for any system partition. On-line hardware diagnostics for the selector channel, the 2841, 2311 and the communications adapter are provided.

Miscellaneous

System cycle time for systems with more than 32K of core is 2.25 microseconds. Customers with a four microsecond cycle (1801 or 1802) must convert to the two microsecond 1801 or 1802 before additional core beyond 32K words can be added.

All environmental specifications of the 1801/1802 apply to the features, except that the temperature limits will be 40 degrees F minimum to 105 degrees F maximum. The new standalone enclosure 1826 Model 3 may be located up to 40 feet from the 1801/1802. It is similar to existing 1826 enclosures, but will accommodate only selector channels, communications adapters, and 1800/2790 adapters. The selector channel, communications adapters, and 1800/2790 adapters may also be located in an 1826 Model 2. See Sales Manual pages for limitations.

Administrative Procedures ... Standard 1800 ordering procedures should be used for altering on-order or installed equipment.

RPQs ... These will be accepted immediately.

    The Selector Channel, with 2841 attachment,
    has been previously supplied by RPQ CO8037
    -- S/360 Selector Channel to 1800 and CO8084
    -- 2311/2841 attachment to Selector Channel.

    RPQ CO8295 ... 1800 additional data channel
    has been previously supplied for three additional
    data channels. These RPQs do not provide as
    much capability as the data channel expander
    and should not be considered a comparable
    feature. Additional core storage and Binary
    Synchronous Communications have not previously been supplied as RPQs.

Publications Support ... The following publications will be updated to reflect the new features and/or programming enhancements:

Publication	Availability
MPX System Introduction (C26-3718) and Tech Newsletter (N26-0598)	July 1969
MPX Planning Guide (C26-3731)	September 1969
MPX Programmers Guide (C26-3720)	March 1970
MPX Operating Procedures (C26-3725) and Tech Newsletter	March 1970 September 1970
MPX Subroutine Library (C26-3724) and Tech Newsletter	March 1970 September 1970
MPX Program Logic Manual (Y26-3726) and Tech Newsletter	March 1970 September 1970
MPX Communications Adapter SRL	March 1970
MPX Error Message & Recovery Procedures (C26-3727) and Tech Newsletter	March 1970 September 1970
1800 Functional Characteristics (A26-5918)	July 1969
1800 Installation - Physical Planning (A26-5922) and Tech Newsletter (N26-0242)	July 1969 September 1969
1800 Physical Planning Template (X26-3573	July 1969
1800 Configurator (A26-5919)	July 1969
1800 System Summary (A26-5920)	July 1969
1800 Reference Handbook (X26-5624)	July 1969
1800 Operating Procedures (A26-5753) and Tech Newsletter (N26-0237)	July 1969
1800/2790 MPX Communication System	September 1970
Bibliography (A26-5921)	July 1969
2790 System Summary (A27-3016)	July 1969
2790 Components Description (A27-3015)	August 1969
2790 Configurator (A27-3021)	September 1969
2790 Physical Planning (A27-3017)	August 1969
Promotional Brochure (520-2158)	July 1969

Advance copies of the above publications will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Penna. Consult the weekly Publications Release Letter for actual dates of availability.

DP Orders and Movements Codes:

Type	Model	Product Line	Product Category
1803	2A, 2B, 2C 2D, 2E	6	49
1826	3	6	49

Product Announcement

1255 MAGNETIC CHARACTER READER

IBM World Trade announces a new horizon in bank Document Handling automation... Remote Magnetic Ink Character Recognition (MICR) data capture with the IBM 1255 Magnetic Character Reader and IBM 2770 Data Communication System.

The 1255 reads E13B MICR encoded documents at the rate of 500 six-inch (152MM) documents per minute...sorts documents into six pockets using 1 1/2 document passes per digit...operates off-line, or as a component of the 2770 Data Communication System.

1255 Highlights:

- Reads and sorts at 500 per minute speed mentioned above. Actual speed depends upon length of document, paper quality and atmospheric conditions.
- While sorting on any position of any field, the 1255 checks character validity and fixed field lengths of all fields activated by operator panel buttons. When used with a 2770 System, the 1255 operates as a terminal input device or as an off-line sorter.
- The input hopper uses a gravity feed for non-stop loading. Six horizontal stackers in one vertical row each have document capacity of 2 1/2 inches (63MM). A new single gap reading technique is used.

1255 Design Features:

- Simplicity of operation
- Operator convenience
- Continuous document loading
- Optimum document stacking
- Minimum space requirements

Sorting Capability:

Off-line sorting uses five sort stackers and one reject stacker for a two-phase digital sort. Even digits are sorted in phase 1 with odd digits rejecting for sorting in phase 2. An alternate sort pattern of 0-4 and 5-9 may be specified. The apparent 1 1/2 document passes per digit may be less depending upon the number structure, such as preponderance of high order zeros which sort in the first phase.

With the 2770 Data Communication System, the 1255 provides an MICR data entry and report printing terminal for remote input/output of application data by small banks or bank branches, for processing by larger bank or service bureau processing centers. All components of the 2770 System are available with the same requirements and limitations.

Terminal System Highlights:

With the 2770 System, the 1255 operates in on-line, home, or off-line modes. Sorting is suspended in the on-line or home mode with document stacking alternating between two pockets on a pocket full condition.

In home or on-line mode, data is read by the 1255 into the alternating 2772 Control Unit buffers. Multiple documents are transmitted from the 2772 in the form of one data block. In the home mode, data can be recorded on any output device available on the 2770 System. On-line data is transmitted by the 2772.

Pre-transmission verification of documents is available in several forms. With the basic 1255, documents may be passed to reject invalid items for correction prior to transmission. The Balance-List optional feature totals good items for balancing batches to input totals. With this feature, the total of good items may be accumulated and printed, or good items may be listed and totaled, using the 2770 System printer.

Document thruput in terminal system transmission is influenced by document size, number of characters transmitted, documents per buffer and communications facilities. For checks with an average length of 7.25 inches (184MM) using a 2,000 baud dial-up line, and transmitting twenty characters per document with twelve documents per buffer, the thruput would approximate 400 documents per minute. The same checks and line transmitting forty characters per document and six documents per buffer would approximate 270 documents per minute. Transmission errors would reduce the thruput in these examples.

Distribution: All Areas

Typical System:

		(Minimum System except as indicated)	
	Rental	Purchase	MMMC
1255 Mag. Character Reader	$837	$40,190	$218
2772 Adapter	46	2,179	3
2772 Control Unit	276	12,126	56
Buffer Expansion	26	1,108	11
2502 Card Reader and Attachment (Optional)	176	8,715	43.50
2213 Printer and Attachment	165	7,226	49

Delivery:

Shipments of the 1255 will begin in June 1970. Shipments for use with the 2770 will begin in August 1970. The Source of Supply is Endicott, New York.

The delivery schedule will be published in 120 days. Schedule dates for orders received during the 120 day period will be assigned by the appropriate allocating locations on a sequential basis. No commitments are to be made to customers until such dates are received in the branch office.

RPQ's:

RPQ's may be submitted immediately, but will not be processed until 90 days after the date of this letter with response time dependent upon complexity.

Programming Support:

Programming Support announced for the 2770 System supports the 1255 as a system component.

Publications Support:

The 2770 System SRL publication, System Components, describes the 1255 as a stand alone unit and attached to the 2772. Availability will be announced in a forthcoming Publications Release Letter.

Prices:

	Model/Feature	Rental	Purchase	MMMC
1255 Mag. Char. Reader	1	$837	$40,190	$218
2772 Adapter	7850	46	2,179	3
Dash Sym. Transmission	3215	51	36	——
51-column Card Sorting	4380	16	749	——
Self-checking Number	7060	51	2,423	3
Balance List	1470	70	3,390	6

Rental Plan: A 30%   Maintenance Group: C
Purchase Option: 40%   Per Call Category: 2

Sales Compensation Plan:

Normal DP Sales Compensation plan provisions apply. In addition, add to Schedule A: 1255-800 On-Schedule Installation Quota Points. Add to Schedule B: Class B, Group 38, Type 1255, Identification 1255, 800 Out of Territory points, Effective data July 14, Termination Date January 1, 1970.

DP Orders and Movements Codes:

Type	Model	Product Category	Product Line
1255	1	39	6
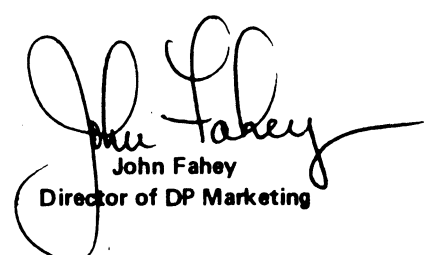
Test Allowance:

The 1255 is not eligible for pre-installation customer test allowance.

Systems Assurance:

All proposals and orders require a Systems Assurance Review and approval.

Appropriate sales manual pages will be distributed in the near future.

John Fahey
Director of DP Marketing

Product Announcement

IBM SYSTEM/360 MODEL 20 — INTERMEDIATE BLOCK CHECKING FEATURE

Changes have been made to the Binary Synchronous Communication (BSC) stations to enhance the reliability and compatibility characteristics of the stations, when operating in a system.

The implementation of these changes in the System/360 Model 20 include the provision of the Intermediate Block Check capability as a standard function rather than as a special feature on the Binary Synchronous Communication Adapters.

On the System/360 Model 20 Binary Synchronous Communications Adapters, # 2720 and # 2740, the Feature Code # 4700 (Intermediate Block Checking) has been removed and the capabilities provided by this feature has been made a standard function on these adapters for the submodels 2, 4, and 5.

All customers with this feature now installed or on order should be notified of this change and outstanding proposals should be updated to reflect the change.

John Fahey
Director of DP Marketing

Distribution: All Areas
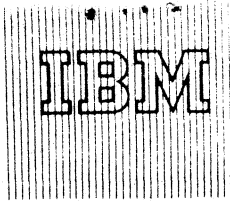
Product Announcement

NEW 2314 DASF CONFIGURATIONS PROVIDE INCREASED MODULARITY

IBM announces the new 2318 dual drive Disk Storage unit, and 2314 A Series Direct Access Storage Facilities (DASF) with capacities from 29,176 to 233.408 million bytes in increments of 29.176 million bytes.

Highlights:

Complete modularity through data base growth in 29.176 million byte increments by attachment of any storage unit (2312, 2313, 2318) up to a maximum combination of eight active plus a spare (service) module.

    60 millisecond average access time

    312 KB data rate

    Compatible with 2314-1 and 2314-A1/A2 DASF's -- both programming and data format

    Continues use of IBM 2316 Disk Pack

    In-line diagnostic capability through use of "service" module plug

    2844 available for the eight plus one spare module configuration

The expanded 2314 DASF provides a modular growth pattern for the present IBM 2311 user and offers a lower price entry for the new DASD customer who requires a high performance/large capacity storage device. It also provides a more economical growth path for installed IBM DASF users to grow in storage increments tailored to meet their needs.

Delivery:

First Customer shipment for new orders that include a 2318 will be in December 1970. Existing 2314 DASF orders may be converted to the new configurations and the schedule may be retained if the production of the new configurations is available. Delivery dates should not be quoted to the customer until confirmed by the Orders and Schedules Department in WTHQ, New York. Published delivery schedules will be available in 120 days. Schedule dates for orders received during that 120 days will be assigned by WTHQ on a sequential basis. No commitments to customers are to be made until such dates are received in the branch office.

Source:

    Mainz and San Jose (Canada Only)

RPQ's:

RPQ's for the 2318 may be submitted 90 days after announcement. Response will be within 60 days. No RPQ's will be shipped until three months after the first customer shipment of the 2318.

Programming:

The proven 2314 DASF programming support recognizes the 2312, 2313, and 2318 as a 2314 DASF with a specified number of disk storage modules on line. All IBM and customer programs operable on the currently available 2314 DASF's will run on the new configurations without change, assuming an equivalent number of modules.

IBM 2314-A02 Storage Control Withdrawal:

Concurrent with the announcement of the 2318 and the expanded 2314 A Series DASF's, the 2314-A02 Storage Control is removed from the product line. All existing orders for the 2314-A02 will be filled with the 2314-A01.

Modularity--Greatly expanded flexibility in configuring a 2314 A Series DASF to meet the requirements of your customer is now available. One module (29.176 million bytes) to eight modules (233.408 million bytes) may be utilized in each 2314 A Series DASF. Growth is in increments as small as 29.176 million bytes.

Access Time--Average access time is 60 milliseconds, with a minimum of 25 and a maximum of 130 milliseconds.

Cylinder Concept--Same as in previous 2314 DASF models with up to 7294 bytes per track and up to 145,800 bytes per cylinder.

Field Installability--The 2312, 2313 and 2318 are field installable to any Alpha series Storage Unit (up to nine drives) or to a 2314 A01 Storage Control Unit. Field installation times are:
    2312 - 5.0 hrs.
    2313 - 15.0 hrs.
    2318 - 9.0 hrs.

Interchangeable Disk Packs--The 2316 is used on the 2312, 2313, and 2318.

Standard Features--Includes file scan, record overflow, and control unit isolation.

Unit Prices:

Model	Rental (MAC)	Purchase	MMMC
2312-A01 (one drive unit)	$ 560	$25,590	$ 75
2313-A01 (four drive unit)	1835	83,850	240
2314-A01 (control unit)	1555	71,050	60
2318-A01 (two drive unit)	1000	45,700	135

Rental Plan: A (10%) Maintenance: C Purchase Option: 55% Per Call: 2

Publications--TNL N26-0244 for SRL A26-3599 will be available by July 14, 1969. The following SRL's will be updated through TNL's to reflect the 2318 and the new configurations: DOS Data Management Concepts (C24-3427) and OS/360 Systems Generation (C28-6554). An updated OEM manual to reflect the 2318 will be available on or before January 1, 1970. The availability of the above publication will be announced in a future Publications Release Letter. Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Pennsylvania.

Program Test Allowances:	Hours
2314-A01 Storage Control	5
2312-A01, 2313-A01 and 2318-A01 Disk Storage	
First Group (1 to 4 modules)	5
Second Group (5 to 8 modules)	5

Education Allowance--For eligible institutions an education allowance of 20% will apply.

NEW 2314 DASF CONFIGURATIONS PROVIDE INCREASED MODULARITY (cont'd)

DP Orders and Movements Codes:

Type	Model	Product Type	Product Catagory
2312	A01	7	59, 87, 89, 91 92, 93, 95
2313	A01	7	"
2314	A01	7	"
2318	A01	7	"

Sales Compensation Plans:

Normal Provisions Apply

Related Sales Manual Pages will be issued shortly.

2314 DASF - A Series Configurator

1. Based on the quantity of disk storage modules required in the 2314 DASF - A Series, select the number of 2312s (1 module), 2313s (4 modules) and 2318s (2 modules) needed to provide the lowest cost DASF.

2. Arrange the selected units (2312, 2313, 2318) in the DASF starting with position 9491 next to the 2314 Storage Control mdl A1 in accordance with the following diagram. The position numbers (9491-9495) on each unit (2312, 2313, 2318) will provide the necessary facility cables.

Possible Positions	Pos. 9495	Pos. 9494	Pos. 9493	Pos. 9492	Pos. 9491	Stor. Ctrl. 2314 mdl A1
2312	9495	9494	9493	9492	9491	
2313				9492 +9491		
			9493 +9492			
		9494 +9493				
	9495 + 9494					
2318	9495	9494	9493	9492	9491	

3. Each disk storage module must have a physical drive identification light (A-J) and module select plug (0-7) specified on the DPMO (each facility will receive a "Service" module select plug). These must be arranged in sequence starting with 9111 and going from right to left as shown in the following diagram (9111 - 9119). Note: 9111 provides light A and plug 0, 9112 provides light B and plug 1, etc.

Each 2312 needs one Drive Identifier (9111-9119)
Each 2313 needs four Drive Identifiers (9111-9119)
Each 2318 needs two Drive Identifiers (9111-9119)

	Pos. 9495	Pos. 9494	Pos. 9493	Pos. 9492	Pos. 9491	Stor. Ctrl. 2314 mdl A1
Possible	9115	9114	9113	9112	9111	
Drive	9116	9115	9114	9113	9112	
Identifier	9117	9116	9115	9114		
Numbers	9118	9117	9116			
	9119	9118				

4. To complete a DASF, order a 2314 Storage Control mdl A1 if the disk storage units are not add-ons to an existing 2314 DASF - A Series.

5. Compatibility for each unit must be maintained within a DASF with respect to any special features ordered.

6. To complete a DASF, specify 9180 on the 2312, 2313 or 2318 that is in the position farthest from the 2314 mdl A1 ... this identifies the end unit for proper covers. Note: Order 9180 only once per DASF.

7. If a DASF has 7 or more disk storage modules, 9580 must be specified on the 2314 mdl A1 to provide the required 60 amp cord in lieu of the standard 30 amp cord. When ordering additional disk modules be alert to this requirement.

8. For complete ordering details for the above items and for voltage, color, disk packs, etc., see "Specify" and "Special Features" under 2314 DASF - A Series above.

John Fahey
Director of DP Marketing

Product Announcement

PRICE ADJUSTMENTS TO DP LETTERS 69-258 69-259, 69-261 and 69-262

Letter No.	Description	M/SF	Announced Price	Adjusted Price	
69-258	545 Output Punch (Non-Printing)	3	$ 47	MMMC	$ 45
7/14	545 Output Punch (Printing)	4	47	MMMC	45
	1255 Magnetic Character Reader	1	218	MMMC	210
	1255 Self-Checking Number Device	7060	3	MMMC	2.50
	2213 Printer	1	6,118	Purchase	4,865
	2213 Printer	2	7,704	Purchase	7,560
	2265 Display Station	2	117	Rental	177
	2265 Display Station	2	42	MMMC	40
	2502 Card Reader	A1	42	MMMC	40
	2502 Card Reader	A2	42	MMMC	40
	2502 51/80 Col. Interchangeable Feed	4650	14	MMMC	13
	2502 66/80 Col. Interchangeable Feed	4651	14	MMMC	13
	2772 Multipurpose Control Unit	1	56	MMMC	54
	2213-1 Attachment	8010	8	MMMC	7.50
	2213-2 Attachment	8700	8	MMMC	7.50
	1018 Attachment	7915	7	MMMC	6.50
	Transmit - Receive Monitor Point	7950	3	MMMC	2.50
	Keyboard Correction	4690	2	MMMC	1.50
	50/2772 Attachment	7850.	16	MMMC	15
69-259	2715 Transmission Control Unit	1 & 2	209	MMMC	200
7/14	Expanded Capability	3801	12.50	MMMC	12
	2791 Area Station	1 & 2	46	MMMC	45
	2795 Data Entry Unit	1	4.25	MMMC	4
	2796 Data Entry Unit	1	6.25	MMMC	6
	2968-8 Data Entry Unit Controller RPQ	1	14	MMMC	13
69-261 7/14	1826 Line Adapter	7551	6,820	Purchase	6,860
69-262	1255 Magnetic Character Reader	1	218	MMMC	210

John Fahey
Director of DP Marketing

Distribution: All Areas
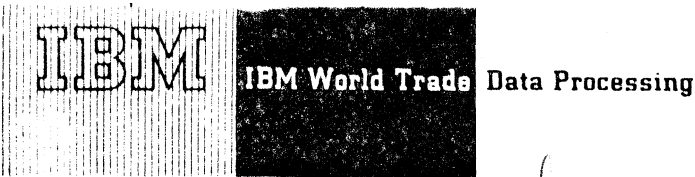
ADDITIONAL FEATURES AND INPUT/OUTPUT DEVICES ATTACHABLE TO SYSTEM/360 MODEL 67 ANNOUNCED

Effective immediately, the following I/O devices can be attached to the Model 67. This announcement further broadens the market potential of the System/360 Model 67.

These devices presently available on the Model 65 are being made available for attachment to the Model 67 when it is operating in Model 65 mode.

Type	Models	Description
1403	7	Printer
1419	1	Magnetic Character Reader
2302	3,4	Disk Storage
2415	1,2,3 4,5,6	Magnetic Tape Unit and Control
2420	5,7	Magnetic Tape Unit
2495	1	Tape Cartridge Reader
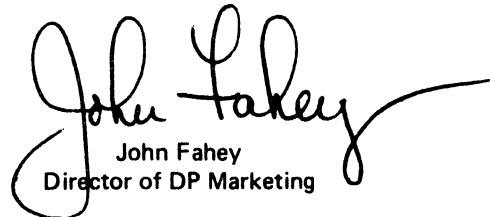
The following I/O devices currently attachable to the Model 67 via a 2860 Selector Channel and/or a 2870 Multiplexer Channel may now be attached via a selector subchannel of the 2870 Multiplexer Channel:

Type	Models	Description
2250	1	Display Unit
2840	2	Display Control
2848	1,2,3 21,22	Display Control
2841	1	Storage Control (for 2321-1 attachment only)

The following features may be added to the 2702-1 when it is attached to a Model 67:

Feature Number	Description
1065	Additional Selective Speed
2795	WT Telegraph Terminal Control
2799	WT Telegraph Line Adapter
2829	WT Telegraph Single Current Line Adapter
2831	WT Telegraph Double Current Line Adapter
3853	Expansion Base
4612/4613	IBM Line Adapter
4634	IBM Line Adapter
4616	IBM Terminal Control-Type II
7387	Speed Extension
7918	1032 Attachment

No additional TSS/360 or OS/360 programming support is being provided. TSS/360 does not support these new attachment capabilities. Existing OS/360 support applies when the model 67 is operating in Model 65 mode.

John Fahey
Director of DP Marketing

Product Announcement

7040/44, 7090, 7094, 7094-11, ASSOCIATED COMPONENTS BEING WITHDRAWN FROM PRODUCT LINE

Effective within 60 days of this announcement, the following systems as well as all associated components used exclusively with these systems will be withdrawn from the product line along with their features: IBM 7040, 7044, 7090, 7094 and 7094-11.

Orders for units on the following list shown below (with the exception of the 7108 Instruction Processing Unit) received and time-stamped in the branch office within 60 days of this announcement will be handled as before on an "as available" basis and returned to the customer if no units can be allocated within 180 days from the announcement date.

Customer initiated deferments of orders for which units are allocated and ship date established may result in cancellation by IBM. The 7108 Instruction Processing Unit is withdrawn immediately, since there are no longer units which could become available.

RPQs for special features and repeat orders of previously designed RPQs will be individually considered and supplied on an "as available" basis, until further notice. These units are on the Restricted Machine list for new RPQs (GI 12.8) and the IBM 7320 Drum Storage is being added.

Action Required... All affected customers must be notified immediately in writing, and all outstanding proposals must be updated to reflect this change.

Components to Be Withdrawn

711	Card Reader
716	Printer
721	Card Punch
7106	Processing Unit
7107	Processing Unit
7108*	Instruction Processing Unit
7109	Arithmetic Sequence Unit
7110	Instruction Processing Unit
7111	Instruction Processing Unit
7151	Console Control Unit
7302 Mdl 3	Core Storage
7320	Drum Storage
7606	Multiplexer
7607	Data Channel
7608	Power Converter
7617	Data Channel Console
7618	Power Control

John Fahey
Director of DP Marketing

PUBLICATIONS MARKETING POLICIES AND PRACTICES - NEW WORLD TRADE GENERAL INFORMATION PAGES

The June 23, 1969, DP Marketing Announcements made by IBM US and described in DP Letters 69-247, 69-248, 69-249 and 69-250, have a significant effect on the distribution of DP Marketing Publications.

Because of the IBM US decision to charge separately for certain systems engineering activities, most future computer programs and most customer education courses, they have found it necessary to reclassify all DP Publications to define the intended use of a document and the conditions under which it can be made available outside of IBM. This is accomplished by the assignment of "Use Keys" which are now listed along with the form numbers in the current DP Price List of Publications (Z10-9627-16) and each weekly supplement to that list. Copies of this Price List have been distributed to country and branch office librarians. Additional copies are available from the IBM Distribution Center, Mechanicsburg, Pennsylvania.

Since virtually all of the publications issued by IBM US are available to WT users and because the marketing objectives of these publications are the same as those originating in WT Countries, it is our intention to adopt the "use key" criteria as standard for all countries. Revised Sales Manual G.I. Pages describing the "use key" concept are attached. It is important to note that although the Revised Sales Manual pages differ considerably from those issued with DP Letter 69-244, our policies and practices with respect to those publications which may be given away and which must be paid for remain unchanged.

What has changed is the fact that the announcement of Program Products (reference DP Letter 69-250) added a new category of publications known as Program Products Documentation. (Use key "D" in the attached GI pages.) Program Product Documents may be either licensed or unlicensed and are so identified in the appropriate Program Product Announcement Letter, the current Price List of Publications, and any SRL Bibliographies they appear in.

The licensed publications include proprietary information and must be safeguarded. They are available for use outside IBM only to licensees as announced in WT DP Letter 69-250 under the terms and conditions found in Instruction Letter 69-84 and WT Instruction Manual pages N-1 through N-17 of Section 2-10. A user must have signed a "License Agreement for IBM Program Products"; the licensed publications must be ordered by feature code, and the order processed through country Orders and Schedules using the DPMO form (112-5985).
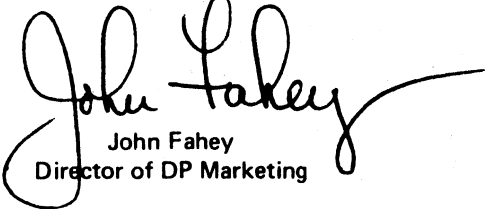
For IBM internal use only, the licensed publications are also available from the IBM Distribution Center at Mechanicsburg and may be ordered by form number through normal channels. Mechanicsburg will not ship any licensed publications directly to customers but they make no distinction between the content of IBM US and WT publications requisitions. Therefore, safeguarding the release of this "internal use only" licensed material is your responsibility. This material must not, under any circumstances, be given or sold to a customer, until further notice.

Unlicensed publications that are included as part of a Program Product are available to anyone but must be sold at the established local selling price. A stated number of copies may be included as part of the Program Product at no additional charge to the user of the Program Product. This will be specified in the individual announcement letter.

It is IBM US's intention to eventually reprint any of their publications which contain references to support services which are provided without charge. Until this time, we suggest that an appropriate statement be either stamped on the cover or inserted as a fly leaf in order to minimize any misunderstandings that might arise in your country while using publications referring to programs which must be paid for.

For additional information concerning the new publications concept, you may direct your inquiries to DP Sales Publishing Services, WTHQ, New York

John Fahey
Director of DP Marketing

Attachments [3]:   GI 13.1, 13.3, 13.5

Distribution: All Areas
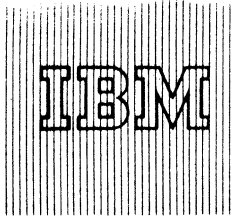
Product Announcement

RECORD COUNTER FEATURE (6210) AVAILABLE FOR THE IBM 50 MAGNETIC DATA INSCRIBER

A Record Counter Feature (6210) which tells the operator how many records have been keyed on the IBM 50 Magnetic Data Inscriber cartridge is now available. It is a five-position incrementing and decrementing counter that is visually read and can be manually reset at any time.
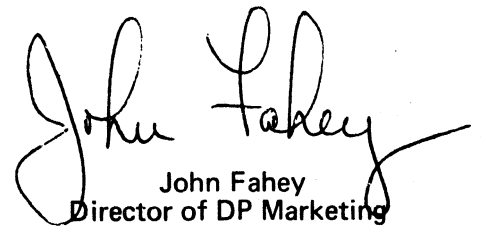
Prices are:

Feature	MAC	Purchase	MMMC	FIC
6210	$ 10	$ 550	$ 2.25	PCR

This record counting feature will be manufactured in Greenock, Scotland and will be field installable on machines with a serial number of 00146 or higher. For machine serial number 00145 or lower, the Production Control department in Greenock must be contacted to determine whether field installation is possible.

First customer shipments will commence in December, 1969.

Advance copies of Technical Newsletter (N22-0339) describing this feature (6210) have been shipped. Additional copies are available from the IBM Distribution Center, Mechanicsburg, Pa.

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

AVAILABILITY OF S/360 MODEL 20 SUBMODEL 5 EMULATION ON S/360 MODEL 25

System/360 Model 25's, with Model 20 Mode Feature (#7600), shipped prior to November 26, 1969 from Endicott or January 26, 1970 from Mainz execute System/360 Model 20 Submodels 1 - 4 instructions. All systems shipped after these dates, with this feature, will be compatible with System/360 Model 20 Submodels 1 - 5.

A field Bill of Material (B/M) will be available January, 1970 from Endicott and March, 1970 from Mainz to upgrade those units shipped prior to the dates mentioned above.

Although Model 20 Submodel 5 magnetic tape and disk data operations may be overlapped with CPU instructions, card operations and printer operations, under program control, they may not be overlapped with each other. Therefore, some extension of job completion time may result, when S/360 Model 20 Submodel 5 programs employing magnetic tape data transfer are executed with this feature.

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

SYSTEM/360 CUSTOMER INFORMATION CONTROL SYSTEM PROGRAM PRODUCT (5736-U11) READY FOR SHIPMENT

> **Note:** This Program Product can be ordered only if the criteria specified in DP Letter No. 69-250 are met. Consult the Instruction Manual, Section 2-10 that accompanied Instruction Letter No. 69-84 for ordering procedures.

The Customer Information Control System Program Product 5736-U11 is ready for shipment at PID.

It is a highly responsive, transaction oriented, data base, data communication interface between Operating System/360 and user-written application programs.

In addition to providing programs necessary for inquiry and conversational data entry applications, the system has functions for many standard terminal applications, including message switching, broadcasting, data collection, and order distribution.

The Customer Information Control System was designed for the very demanding customer information system environment; however, it has been found to be applicable to most on-line real-time data base systems.

Major functions provided by the Customer Information Control System are:
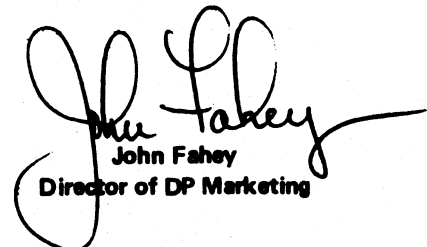
- Task Management
- Storage Management
- Program Management
- Terminal Management
- File Management
- Transient Data Management
- Temporary Storage Management

In addition to the management functions, the Customer Information Control System provides the following system service programs:

- Sign on/Sign off
- Master Terminal Function
- Supervisory Terminal Function
- System Statistics
- System Termination

On the reverse side is the Program Product Specification sheet which may be reproduced and given to customers who have met the criteria of DP Letter 69-250.

Detailed information is in the sales manual write-up on pages 3 and 4 of this announcement.

John Fahey
Director of DP Marketing

PROGRAM PRODUCT SPECIFICATION

<u>Customer Information Control System 5736-U11</u>

The IBM Customer Information Control System is a general purpose data base, data communication interface between Operating System/360 and user-written application programs. The system, which is distributed as Assembler Language Source and Macro Libraries, provides the user with the facilities to generate a system configuration applicable to his needs, to define the environment in which the system is to execute and a macro facility through which to communicate application program service requests.

Functions necessary to support a data base, data communication system plus functions required to support other standard terminal applications (such as message switching, data collection, and order distribution) are provided by the Customer Information Control System through the following management facilities:

- Task Management - provides multitasking facilities necessary for concurrent transaction processing. Other required functions satisfied by this important program include priority scheduling, transaction synchronization, and serially reusable facility control.

- Storage Management - provides the control of main storage. Storage acquisition, disposition, initialization, and request queuing are among the services and functions performed by this essential component of the system.

- Program Management - provides a multiprogramming capability through dynamic program management while offering a program fetch capability as well as OS/360 fetch protection.

- Terminal Management - provides polling under user specified line traffic control as well as user requested reading and writing. This facility supports automatic task initiation to process new transactions. The testing of application programs is accommodated by the simulation of terminals through sequential devices such as card readers, line printers, disk, tape, etc.

- File Management - provides a data base facility using Operating System/360 direct access and indexed sequential data management. This function supplies support for symbolic storage (updates and additions) and selective retrieval of logical file data.

- Transient Data Management - provides the optional queuing facility for the management of data in transit to and from user defined destinations. This function has been included to facilitate the implementation of message switching, data collection, and logging.

- Temporary Storage Management - provides the optional general purpose "scratch pad" facility. The facility is intended for video display paging, broadcasting, data collection suspension, conservation of main storage, and retention of control information, etc.

In addition to the management functions described, the Customer Information Control System provides the following system service programs:

- Sign On/Sign Off - provides the means of terminal operator identification (security).

- Master Terminal Function - provides dynamic user control of the system. It is through this facility that the master terminal operator can change the status and values of data used by the control system and thereby alter the operation of the system.

- Supervisory Terminal Function - performs the same services as the Master Terminal except they are limited to terminals under a given supervisor's jurisdiction.

- System Statistics - provides the ability to dynamically display system statistics.

- System Termination - allows the user to close the system down by gathering summary statistics, closing data sets, and returning control to OS/360.

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 ... SER1 ... Graphic Programming Services (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 (PCP) 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 PCP, 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.

Minimum Machine Configuration: The configuration requirements 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 OS/360 PCP configuration with only locally attached 2260 Display Stations, the OS/360 MFT or MVT configurations with all other terminals. The Decimal Arithmetic, Storage Protection is a desirable feature on PCP, MVT, and MVT OS/360. Appropriate I/O units to satisfy the OS/360 requirements for 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- or 7-track with Data Conversion feature) must be available for program distribution and maintenance.

The minimum system may have all terminals (features which are not mentioned are not supported) of a single type or combinations of:

2260 Display Station (local attachment or remote attachment on non-switched lines) with optionally -- Alphameric Keyboard (#4766) or Numeric Keyboard (#4767), through a 2848 Display Control Model 1, 2, or 3 with the following optional features -- Line Addressing (#4787) and/or Non-destructive Cursor (#5340) and Non-destructive Cursor Adapter (#5341) and/or 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 the following optional features -- Destructive Cursor (#3301) and/or Line Addressing (#4801, 4802) and/or 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 with a 1052 Printer Keyboard, and with a 1056 Card Reader (optional.)

2740 Communication Terminal Model 1 (on non-switched lines) with the following optional features -- Record Checking (#6114) and/or Station Control (#7479).

2740 Communication Terminal Model 2 (on non-switched lines) with Record Checking (#6114) which is optional.

Common Carrier TeletypewriterExchange (TWX) Stations Model 33/35 Type with 8-level codes at 110 bps on Common Carrier Switched 160 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 auto poll 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 up to 15,000 bytes of core storage. The tables and areas used with the system are variable and dependent on 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 work areas. See the <u>Customer Information Control System Program Description Manual</u> for further information.

THIS PAGE MAY BE REPRODUCED AND GIVEN TO CUSTOMERS.

Customer Information Control System (5736-U11): The Customer Information Control System is a highly responsive transaction oriented, data base-data communication interface between Operating System/360 and user-written application programs. In addition to the inquiry and conversational data entry capabilities, this system provides the facilities necessary for many of the standard terminal applications including message switching, broadcasting, data collection, and order distribution.

The IBM Customer Information Control System, as its name implies, was designed for the very demanding customer information system environment; however, it has been found to be applicable to most on-line real-time data base systems.

Features: This program performs its functions as a data base-data communication interface and supports the standard terminal applications through the following management facilities:

- Task Management - provides multitasking facilities necessary for concurrent transaction processing. Other required functions satisfied by this important program include priority scheduling, transaction synchronization, and serially reusable facility control.

- Storage Management - provides the control of main storage. Storage acquisition, disposition, initialization, and request queuing are among the services and functions performed by this essential component of the system.

- Program Management - provides a multiprogramming capability through dynamic program management while offering a program fetch capability, as well as OS/360 fetch protection.

- Terminal Management - provides polling under user specified line traffic control, as well as user requested reading and writing. This facility supports automatic task initiation to process new transactions. The testing of application programs is accommodated by the simulation of terminals through sequential devices such as card readers, line printers, disk, tape, etc.

- File Management - provides a data base facility using Operating System/360 direct access and indexed sequential data management. This function supplies support for symbolic storage (updates and additions) and selective retrieval of logical file data.

- Transient Data Management - provides the optional queuing facility for the management of data in transit to and from user defined destinations. This function has been included to facilitate the implementation of message switching, data collection, and logging.

- Temporary Storage Management - provides an optional general purpose "scratch pad" facility. The facility is intended for video display paging, broadcasting, data collection suspension, conservation of main storage, and retention of control information, etc.

In addition to the management functions described, the Customer Information Control System provides the following system service programs:

- Sign On/Sign Off - provides the means of terminal operator identification (security).

- Master Terminal Function - provides dynamic user control of the system. It is through this facility that the master terminal operator can change the status and values of data used by the control system and thereby alter the operation of the system.

- Supervisory Terminal Function - performs the same services as the Master Terminal except they are limited to terminals under a given supervisor's jurisdiction.

- System Statistics - provides the ability to dynamically display system statistics.

- System Termination - allows the user to close the system down by gathering summary statistics, closing data sets, and returning control to OS/360.

Use: In planning the successful implementation of an information system, a prerequisite is that the users understand the complexity of system 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 system requests that the user-written 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 specified 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.

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 analysts, 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 transaction processing 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.

Advantages: The Customer Information Control System provides services 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. For testing purposes, terminals can be simulated through the use of card readers, printers, and other sequential devices.

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 ... SER1 Graphic Programming Services (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 (PCP) if the only terminals on the systems 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 included other terminals. The selection of PCP, 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.

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 configuration includes a 2040 (or larger) Processing Unit Model G for the OS/360 PCP configuration with only locally attached 2260 Display Stations, or Model H (or larger) for the OS/360 MFT or MVT configurations that include other terminals. The Decimal Arithmetic, Storage Protection is a desirable feature on the OS/360 (PCP, MFT and MVT). 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 feature) must be available for program distribution and maintenance.

The minimum system may have all terminals (features which are not mentioned are not supported) of a single type or combination of:

2260 Display Station (local attachment or remote attachment on non-switched lines) with the following optional features -- Alphameric Keyboard (#4766) or Numeric Keyboard (#4767), through a 2848 Display Control Model 1, 2, or 3 with the following optional features:

Line Addressing (#4787) and/or Non-destructive Cursor (#5340) and Non-destructive Cursor Adapter (#5341) and/or 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 the following optional features:

Destructive Cursor (#3301) and/or Line Addressing (#4801, 4802) and/or 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, with a 1052 Printer Keyboard, and with a 1056 Card Reader (optional).

2740 Communication Terminal Model 1 (on non-switched lines) with the following optional features:

Record Checking (#6114) and/or Station Control (#7479).

2740 Communication Terminal Model 2 (on non-switched lines) with Record Checking (#6114) (optional).

Common Carrier Teletypewriter Exchange (TWX) Stations Model 33/35 Type with 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 auto poll 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 this program product 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 up to 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 work areas. See the Customer Information Control System Program Description Manual for further information.

Basic Program Product Offering

Basic Licensed Program Product Material: One copy Machine Readable Material consisting of Assembly Language Macro Library and Assembly Language Source Library available on one 2400' reel of magnetic tape ... one copy System Manual (Feature #8805).

Basic Unlicensed Program Product Material: Two copies of Program Description Manual (H20-0605) with TNL (N20-2024) and two copies of Operations Manual (H20-0606) with TNL (N20-2025).

General Product Documentation: One copy of Application Description Manual (H20-0318) with TNL (N20-2023).

To order basic machine readable material, use the following specify numbers.

	Specify Number	Track/Density	Description
Order from IBM	9126	7/800 DC cpi	2400' reel
	9128	9/800 bpi	2400' reel
	9129	9/1600 bpi	2400' reel

Service Classification: B

Additional copies of the unlicensed documentation are available from the IBM Distribution Center, Mechanicsburg.

For further information contact a Public Utility Industry Marketing Representative.

Type	Program No.	DPMO	Service Class
5736	U11	U11	B

Additional copies of the unlicensed documentation listed below are available from Mechanicsburg. **

	Selling Price/Copy
Program Description Manual (H20-0605)	$5.00
Operation Manual (H20-0606)	1.30

Additional copies of the licensed documentation listed below are available from PID (letter 69-250 applies).
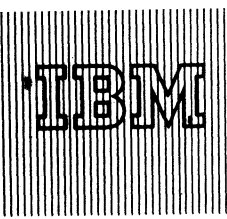
	Features
System Manual	8805 (Y20-0369) *

* Order by form number for IBM Internal Use Only.
** Please reference DP letter 69-273.

For further information contact a Public Industry Marketing Representative.

Product Announcement

LINEAR PROGRAMMING SYSTEM/1130 (LPS/1130) PROGRAM PRODUCT 5711-CO1 READY FOR SHIPMENT

Note: This Program Product can be ordered only if the criteria specified in DP Letter No. 69-250 are met. Consult the Instruction Manual, Section 2-10 that accompanied Instruction Letter No. 69-84 for ordering procedures.

Linear Programming System/1130 (LPS/1130), Program Product 5711-CO1, is ready for shipment at PID. It provides easy-to-use and easy-to-understand means of solving linear programming problems. LPS/1130 offers many significant advantages over LP-MOSS/1130. Performance is substantially better than LP-MOSS/1130 and, in addition, LPS/1130 will take advantage of additional core storage and input-output devices. Input data for LPS/1130 are compatible with those of LP-MOSS/1130 and LPS/360.

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.

Configuration Information ... When using the minimum 8K configuration, LPS/1130 has a logical processing capacity for 500 rows; over 600 disk sectors are available for data storage on this single disk system.

LPS/1130 has a logical processing capacity of 1,500 rows on a 16K or larger 1130; 3,120 disk sectors are available for data storage if three disks are used.

Since problem capacity is limited by disk storage space available, more than one disk may be required to process larger problems. For example, many 500 row problems will require two disks, and many 1,500 row problems will require three disks. The system scaling procedures and inversion methods are designed to produce accurate, reliable solutions within the limit of a 31-bit mantissa.

Programming System ... The system is written almost entirely in FORTRAN with some Assembler language routines.

More information is in the sales manual write-up on page 3 of this announcement.

John Fahey
Director of DP Marketing

Distribution: All Areas

Linear Programming System/1130 (LPS/1130) Program Product 5711-C01

LPS/1130 is composed of procedures which are stored on disk. Use of these procedures is governed by procedure control cards which specify the execution sequence. LPS/1130 procedures provide for:

. Solution of Linear Programming (LP) problems with bounded variables and range constraints.
. Specification of a starting solution basis.
. Discrete parametric analysis of all problem data.
. Determination of Activity-Cost-Bound relationships for all variables.
. Combination of problems to form master problems.

LPS/1130 has a logical processing capacity of 500 rows on an 8K 1130 and 1,500 rows on a 16K or larger 1130. Other factors limiting actual problem capacity are the amount of disk storage available, arithmetic accuracy, and time required to solve large problems.

Input data may originate on cards and be stored on disk for subsequent processing. A disk may contain one or more problems, which can be updated and rerun. Disk-stored data can be referenced for new-problem preparation. A problem may contain alternate objectives and may include alternate sets of problem bounds.

Input data to LPS/1130 are compatible with those of LP-MOSS/1130 and LPS/360.

Output reports are available on cards or printer. Output options include a solution report, a solution analysis report, and parametric reports.

LPS/1130 execution requires at least an 1130 Model 2B (8,192 core storage and one disk storage device) and one of the following:

. 1442 Card Read Punch Model 6 or 7
. 2501 Card Reader
. 1134 Paper Tape Reader

LPS/1130 system generation and maintenance requires at least an 1130 Model 2B and one of the following:

. 1442 Card Read Punch Model 6 or 7
. 2501 Card Reader and 1442 Card Punch Model 5
. 2501 Card Reader and 1442 Card Read Punch Model 6 or 7

The 1130 system used to generate LPS/1130 must have at least as much core storage and at least as many disk storage drives as the 1130 system on which LPS/1130 will be used.

A paper-tape-only configuration may not be used for system generation and maintenance. To run the sample problem on a paper-tape-only LPS/1130 system, the cards must be put on paper tape. To do this a 1055 Paper Tape Punch is required in addition.

Compilation of LPS/1130 source decks requires at least an 1130 Model 2B and one of the following:

. 1442 Card Read Punch Model 6 or 7
. 2501 Card Reader

LPS/1130 can use up to 32,768 words of core storage and up to three disk storage drives. LPS/1130 can also use an 1132 Printer, 1403 Printer, 1442 Card Punch Model 5, and a 1055 Paper Tape Punch.

LPS/1130 versions can be generated for three core sizes: 8K, 16K, and 32K (K=1,024). When executing, LPS/1130 uses all of the core for which it was generated, except for the amount used by the 1130 Monitor. The programs for the 16K and 32K versions use the same amount of core as the programs for the 8K version (except for several programs which use locals on the 8K version). The extra core on the 16K and 32K versions is used for larger data storage.

The source language of LPS/1130 is primarily FORTRAN with some Assembler Language routines. LPS/1130 operates under the control of the IBM Disk Monitor System Version 2.

Linear Programming System (5711-C01): The Linear Programming System/1130 (LPS/1130) provides 1130 Disk Monitor Version 2 users with a simple, easy-to-use and easy-to-understand means of solving linear programming problems. It offers many significant advantages over LP-MOSS/1130. Performance is substantially better than LP-MOSS/1130 and, in addition, LPS/1130 will take advantage of additional core storage and input-output devices. Input data for LPS/1130 are compatible with those of LP-MOSS/1130 and LPS/360.

<u>Description:</u> Mathematical optimization is any mathematical technique for determining the optimum use of various resources to attain a particular objective (such as minimum cost or maximum profit) when there are alternate uses for 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/1130 has a logical processing capacity for 500 rows on an 8K 1130 and 1,500 rows on a 16K or larger 1130. Since problem capacity is limited by disk storage space available, more than one disk may be required to process larger problems. For example, many 500 row problems will require two disks, and many 1,500 row problems will require three disks. Problem size is also limited by the arithmetic accuracy of the 1130.

<u>Features:</u> Large problem capacity (500 rows on an 8K 1130 and 1,500 rows on a 16K or larger 1130) ... flexible processing control (optional conditional control of processing sequence) ... simple problem definition (easy-to-use format and extensive data maintenance functions, specifications 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 ($\leq$ and $\geq$) constraints and bounded variables to simplify problem description and to increase problem capacity and solution speed ... multiple pricing ... efficient triangularization inversion method for accuracy ... extensive post optimal analysis options (discrete parametric analysis for all problem data and activity-cost-bound 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).

<u>Use:</u> LPS/1130 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, a solution analysis report, and parametric analysis reports.

<u>Special Sales Information:</u> On a minimum 1130 System (8K, 1 disk, 3.6 microsec), LPS/1130 is generally 1.5 to 2.0 times faster during the optimization phase than LP-MOSS/1130 for all but very small problems (under 30 rows). Further improved performance over the minimum system can be gained by the use of faster core (2.2 microsec), larger core sizes (16K or 32K), or more disks. Further details on LPS/1130 timing can be found in the Timing Estimates section of the LPS/1130 Application Description Manual or the LPS/1130 Program Description Manual.

To use the LPS sample problem for a short demonstration see the Time Requirements for Generation section in the LPS/1130 Operations Manual.

To process the optional machine readable tape (source code) a System/360 with one 2400 series tape drive is required.

<u>Customer Responsibility:</u> A working knowledge of the 1130 Disk Monitor System Version 2 is recommended for installation. Since the LPS documentation is written in a tutorial fashion, little mathematical background or linear programming experience is needed.

<u>Programming Systems:</u> The source language of LPS/1130 is primarily FORTRAN with some Assembler Language routines. LPS/1130 operates under the control of the IBM 1130 Disk Monitor System Version 2.

<u>Machine Configuration:</u> LPS/1130 execution requires at least an 1130 Model 2B (8,192 core storage and one disk storage device) and one of the following:

- 1442 Card Read Punch Model 6 or 7
- 2501 Card Reader
- 1134 Paper Tape Reader

LPS system generation and maintenance requires at least an 1130 Model 2B and one of the following:

- 1442 Card Read Punch Model 6 or 7
- 2501 Card Reader and 1442 Card Punch Model 5
- 2501 Card Reader and 1442 Card Read Punch Model 6 or 7

The 1130 system used to generate LPS must have at least as much core storage and at least as many disk storage drives as the 1130 system on which LPS will be used.

A paper-tape-only configuration may not be used for system generation and maintenance. To run the sample problem on a paper-tape-only LPS system, the cards must be put on paper tape. To do this a 1055 Paper Tape Punch is required in addition.

Compilation of LPS source decks requires at least an 1130 Model 2B and one of the following:

- 1442 Card Read Punch Model 6 or 7
- 2501 Card Reader

LPS can use up to 32,768 words of core storage and up to three disk storage drives. LPS can also use an 1132 Printer, 1403 Printer, 1442 Card Punch Model 5, and a 1055 Paper Tape Punch.

The recommended 1130 system for good performance and easy operation includes a Model 2C (16,384 core storage and one disk storage device), a 2310 Disk Storage Device Model B1, a 1442 Card Read Punch Model 6 or 7 (or a 2501 Card Reader) and an 1132 Printer (or a 1403 Printer).

LPS versions can be generated for three core sizes: 8K, 16K and 32K (K=1,024). When executing, LPS uses almost all of the core for which it was generated, except for approximately 530 words used by the 1130 Monitor. The programs for the 16K and 32K versions use the same amount of core as the programs for the 8K version (except for several programs which use locals on the 8K version). The extra core on the 16K and 32K versions is used for larger data storage.

<u>Basic Program Product Offering</u>

<u>Basic Licensed Program Product Machine Readable:</u> One copy machine readable material consisting of Object Program Load Modules, Mainline Source Programs, and Sample Problem available on one 2315 Disk Cartridge.

<u>Basic Unlicensed Program Product Documentation:</u> One copy Program Description Manual (H20-0633) ... One copy Operations Manual (H20-0637) with TNL (N20-2037).

<u>General Product Documentation:</u> One copy Application Description Manual (H20-0562-1) with TNL (N20-2033.

	Feature No.	Track Density	Description
Order from IBM	7014	9/800	2400' reel

<u>Service Classification:</u> B

<u>Additional Documentation</u> †:

Licensed Documentation

Systems Manual (Feature No.8806) (Y20-0445)*
Compilation/Assembly Listings
   (Feature No. 8807) (Y20-0438)*

Unlicensed Documentation (order from IBM Distribution Center, Mechanicsburg, and bill customer).**

	Selling Price/Copy
Program Description Manual (H20-0633).	$ 3.55
Operations Manual (H20-0637).	1.15

<u>Reference Material:</u> 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) ... Linear Programming System/360 Application Description Manual (H20-0513).

For further information contact your Scientific Marketing representative.

† To order see DP Sales Activity section of Branch Office Manual.
* Order by form number for IBM Internal Use Only.
** Please reference DP Letter 69-273.
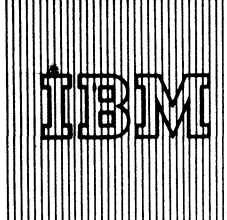
Education Announcement

NEW MATERIALS PREPARED FOR CON—DUCTING 1800 DACS COURSES

DPD Education Development, San Jose, in cooperation with DACS Centers, has prepared the materials for use in conducting 1800 DACS courses. Courses and materials now available are:

- 1800 DACS System Introduction
  (Course Code T1804 63)

- Education Guide   R20-8071-0
  Course Description   R20-9255-0

- 1800 DACS MPX Specifications
  (Course Code S1803 63)

- Education Guide   R20-8074-0
  Course Description   R20-9254-0

- 1800 DACS MPX System Training
  (Course Code H1801 65)

- Education Guide   R20-8075-0
  Course Description   R20-9220-0

The 1800 DACS System Introduction Course (which is a prerequisite to the 1800 MPX courses) is a five-day course which covers:

1) functions of the 1800 hardware units,

2) data formats, data flow, and instruction formats,

3) the instruction set, and

4) the interrupt system.

The 1800 MPX Specifications Course is a five-day course designed to teach the basic concepts of the 1800 MPX System, and how to write FORTRAN programs to operate under control of the 1800 MPX System.

The 1800 MPX System Training Course is a ten-day course which provides instruction in how to generate and install an 1800 MPX System, and how to use the system on a continuing basis.

Advance shipment of the above publications has been made. Additional copies are available from the IBM Distribution Center, Mechanicsburg, Pennsylvania.

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

BASIC PROGRAM MATERIAL FOR POWER SYSTEM PLANNING (PSP) PROGRAM PRODUCT (5736-U12) MAY BE ORDERED

Power System Planning (5736-U12) may now be ordered. The release plan is:

. Basic program material may now be ordered. This material, which consists of object program, Operations Manual, and Program Description Manual, provides the information necessary to prepare data and install the Program Product.

. Maintenance and modification package available June, 1970. This material, which consists of source code, System Manual, and flowcharts, provides the information necessary to modify the Program Product.

. The mutual impedance feature of the Short Circuit component available June, 1971. A review of this schedule will be made to determine if the availability can be improved. You will be notified by June, 1970 of any improvement.

. The minimum partition size for the execution of PSP is increased from 131K. It will require 190K to 220K bytes depending on which simulation programs are being used.

. The retained bus feature of the Short Circuit component is reduced from 200 retained buses to 100.

. The maximum capacity within a 220K partition of the Transient Stability component is reduced from 800 buses and 200 generators to 700 buses and 150 generators. However, with additional memory larger problems may be solved.

Note: The specifications above represent changes to the previous announcement, P68-90.

Using PSP, the electrical utility planning engineer can obtain solutions to electrical network problems. PSP also allows the engineer to study the steady state and transient operational characteristics of present and projected power networks including interconnections.
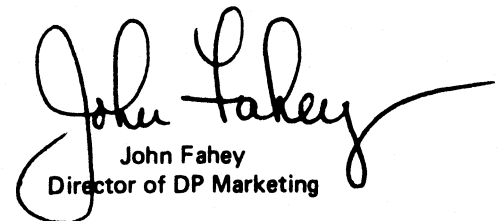
Components of PSP are:

. Engineering Data Management Service -- provides data validation, cataloging, storing, and retrieval services to assist the engineer in organizing and maintaining the data required by the PSP simulation programs.

. Power Flow -- using modern accepted techniques such as Newton-Raphson and sparse matrix manipulation, simulates the steady state operating conditions of actual or proposed power system.

. Short Circuit -- using a Z matrix approach simulates the performance of specified portions of a system under various abnormal operating conditions (faults).

. Transient Stability -- simulates the operation of specified generating facilities during periods of possible unstable operation.

On the reverse side is the program product specification sheet which may be reproduced and given to customers.

Detailed information is in the Sales Manual write-up on page 3 of this announcement.

NOTE: This Program Product can be ordered only if the criteria specified in DP Letter No. 69-250 is met. See Instruction Manual Section 2-10 that accompanied Instruction Letter No. 69-84 for ordering procedures.

John Fahey
Director of DP Marketing

Distribution: All Areas

PROGRAM PRODUCT SPECIFICATION

<u>Power System Planning Program (5736-U12)</u>

Using the Power System Planning (PSP) Program Product, the electrical planning engineer can obtain solutions to electrical network problems.

PSP provides, through the Engineering Data Management Service (EDMS), programs to validate, organize, load, and retrieve electrical power systems data for use by three simulation programs. These three programs simulate steady state line flows and station conditions (Power Flow), three-phase and single-phase line-to-ground faults (Short Circuit), and transient analysis of synchronous machine swings during predicted electrical system disturbances (Transient Stability).

Once information regarding a particular network has been correctly formatted and entered into the EDMS master data bank, base case studies or change case studies may be conducted on an electrical network. This is accomplished by entering control information indicating the network configuration to be studied and the simulation program to be imposed upon that network. The specified network is then retrieved from the master data bank, subjected to the study and results both printed and stored on a direct access file for future use.

Engineering Data Management Service (EDMS) loads, validates, updates, and maintains a common data bank for the three electrical network simulation programs. Initially, it checks data for reasonableness, validates and loads this data into the data bank and, when the simulation is required, retrieves the pertinent data. Significant features are: reasonability checks ... disk/printer utilities ... one data set for each device type ... change case function for ease of network modification ... audit trail of additions or changes to the master data bank ... automatic numbering of buses.

Power Flow component of PSP produces the results of a steady state performance calculation on an electrical power network under load. These results specifically include real and reactive power flows in transmission networks and tielines as well as complex voltages throughout the network. The use of the Newton-Raphson solution technique provides the advantages of ease of solution for large networks and direct representation of circuit elements. Significant features of the Power Flow component are: Newton-Raphson solution technique ... automatic transformer tap changing ... exception reporting capability ... automatic interchange control ... optional tolerance limits ... load tap changing limits ... representation of bus tie breakers.

Short Cicruit component of PSP calculates the three-phase and line-to-ground fault conditions of electrical transmission networks. Significant features are: automatic sequencing (ranking) ... provision for changing of network characteristics ... Z matrix method (driving point and transfer impedance) ... open circuit analysis ... line end analysis.

Transient Stability component of PSP is used to study turbine-generator behavior during and shortly after electrical system disturbance. The Transient Stability component simulates specified system disturbances and determines new system voltages and synchronous machine swings. Significant features are: classical or refined generator representation ... direct solution of network equations ... saturation effect on generators ... IEEE excitation system models ... speed governor model ... swing curve ... case restart with new switching schedule.

Programming Systems: PSP is written in PL/I and operates under the control of Operating System/360, PCP (Primary Control Program), or MFT (Multiprogramming with fixed number of tasks). PSP uses the basic direct access method (BDAM), index sequential access method (BISAM and QISAM), and queued sequential access method (QSAM).

Minimum Machine Configuration: In addition to normal OS/360 machine requirements, the minimum machine configuration for the PSP is a 256K System/360 with a universal instruction set, two 2311 Disk Storage Drives, optionally one 2400 series magnetic tape unit, and, if the system output device is a printer, it must have 132 print positions. The optional tape unit specified is for backup and results file storage. A 2400 series magnetic tape drive (9- or 7-track with Data Conversion feature) must be available for program distribution and maintenance. Based on a maximum simulation problem capacity of 1,000 buses (700 for Transient Stability), the partition size and DASD requirements (the DASD requirements specify the number of cylinders of a 2316 Disk Pack) are:

PSP Component	Partition Size	DASD Requirements			
		Load Module Library	Work Space (temporary)	Results File	Master Data Bank
EDMS File Load & Val.	130K	20	9		↑
EDMS Retr.	130K	20	7		
EDMS Maint.	145K	30	5		
Power Flow	195K	30	19	5	31
Short Circuit	190K	49	12	3	
Transient Stability	220K	15	25	5	↓

The partition sizes given above represent the number of bytes required. In a partition of 150K, the Power Flow component can simulate a network of up to approximately 600 buses with 850 connecting devices.

THIS PAGE MAY BE REPRODUCED AND GIVEN TO CUSTOMERS

Power System Planning (PSP) Program Product (5736-U12):   Using PSP the electrical planning engineer can obtain solutions to electrical network problems.

Description: PSP provides, through the Engineering Data Management Service (EDMS), programs to validate, organize, load, and retrieve electrical power system data for use by three simulation programs. These three programs simulate steady state line flows and station conditions (Power Flow), three-phase and single-phase line-to-ground faults (Short Circuit), and transient analysis of synchronous machine swings during predicted electrical system disturbances (Transient Stability).

Once information regarding a particular network has been correctly formatted and entered into the EDMS master data bank, base case studies or change case studies may be conducted on an electrical network. This is accomplished by entering control information indicating the network configuration to be studied and the simulation program to be imposed upon that network. The specified network is then retrieved from the master data bank, subjected to the study and results both printed and stored on a direct access file for future use.

Engineering Data Management Service (EDMS) loads, validates, updates, and maintains a common data bank for the three electrical network simulation programs. Initially, it checks data for reasonableness, validates and loads this data into the data bank and, when the simulation is required, retrieves the pertinent data. Significant features are: reasonableness checks ... disk/printer utilities ... one data set for each device type ... change case function for ease of network modifications ... audit trail of additions or changes to the master data bank ... automatic numbering of buses.

Power Flow component of PSP produces the results of a steady state performance calculation on an electrical power network under load. These results specifically include real and reactive power flows in transmission networks and tielines as well as complex voltages throughout the network. The use of the Newton-Raphson solution technique provides the advantages of ease of solution for large networks and direct representation of circuit elements. Significant features of the Power Flow component are: Newton-Raphson solution technique ... automatic transformer tap changing ... exception reporting capability ... automatic interchange control ... optional tolerance limits ... load tap changing limits ... representation of bus tie breakers.

Short Circuit component of PSP calculates the three-phase and line-to-ground fault conditions of electrical transmission networks. Significant features are: automatic sequencing (ranking) ... provision for changing of network characteristics ... Z matrix method (driving point and transfer impedance) ... open circuit analysis ... line end analysis.

Transient Stability component of PSP is used to study turbine-generator behavior during and shortly after electrical system disturbance. The Transient Stability component simulates specified system disturbances and determines new system voltages and synchronous machine swings. Significant features are: classical or refined generator representation ... direct solution of network equations ... saturation effect on generators ... IEEE excitation system models ... speed governor model ... swing curve ... case restart with new switching schedule.

Customer Responsibilities: The planning department of the electric utility should be organized to take full advantage of the PSP in the following ways:

1. Initially, all pertinent network data (for example, information on loads, buses, generators, etc.) must be collected, correctly formatted, and loaded into the EDMS master data bank.

2. An efficient procedure must be established for the control, collection, and formatting of additional or change data which must be entered into the EDMS master data bank.

3. The electric utilities system planning personnel responsible for preparing job control cards should be familiar with the IBM Operating System/360.

4. The user is responsible for providing adequate protection from accidental loss or misuse of data.

Programming Systems: PSP is written in PL/I and operates under the control of Operating System/360, PCP (Primary Control Program), or MFT (Multiprogramming with fixed number of tasks). PSP uses the basic direct access method (BDAM), index sequential access method (BISAM and QISAM), and queued sequential access method (QSAM).

Minimum Machine Configuration: In addition to normal OS/360 machine requirements, the minimum machine configuration for PSP is a 256K System/360 with a universal instruction set, two 2311 Disk Storage Drives, optionally one 2400 series magnetic tape unit, and if the system output device is a printer, it must have 132 print positions. The optional tape unit specified is for backup and results file storage.

A 2400 series magnetic tape drive (9-track or 7-track with Data Conversion feature) must be available for program distribution and maintenance.

Based on a maximum simulation problem capacity of 1,000 buses (700 for Transient Stability), the partition size and DASD requirements (the DASD requirements specify the number of cylinders of a 2316 Disk Pack) are:

PSP Component	Partition Size	DASD Requirements			
		Load Module Library	Work Space (temporary)	Results File	Master Data Bank
EDMS File Load & Val.	130K	20	9		31
EDMS Retr.	130K	20	7		31
EDMS Maint.	145K	30	5		31
Power Flow	195K	30	19	5	31
Short Circuit	190K	49	12	3	31
Transient Stability	220K	15	25	5	31

The partition sizes given above represent the number of bytes required. In a partition of 150K, the Power Flow component can simulate a network of up to approximately 600 buses with 850 connecting devices. Transient stability can solve larger networks in a partition size greater than 220K.

Basic Program Product Offering

Unlicensed Documentation: One copy of Program Description Manual (H20-0675), and one copy of Operations Manual (H20-0676).

Licensed Machine Readable Material: One copy of machine readable material consisting of Object Instructions, Link Edit Control Cards, Job Control Language and Sample Problem.

	Specify Number	Track/Density	Description	Quantity
Order From IBM	9126	7DC/800	2400 MT	1 reel
	9128	9/800	2400 MT	1 reel
	9129	9/1600	2400 MT	1 reel

Ordering

Type	Programming Number	DPMO	Programming Service Classification
5736	U12	U12	B

Additional Documentation **

Selling Prices for Unlicensed Documentation (Order from Mechanicsburg, bill customer.)

	Use Key	Selling Price/Copy
Program Description Manual (H20-0675)	D	$10.00
Operations Manual (H20-0676)	D	$ 1.60

Related Program Product Documentation: (Available only from Mechanicsburg .... no charge.)

Application Description Manual (H20-0532-1) Use Key G

For further information contact a Public Utility Industry Marketing Representative.

** Reference DP Letter 69-273

Product Announcement

**WITHDRAWAL FROM PRODUCT LINE OF
1009, 1014, AND 1448**

Effective January 1, 1970, the 1009 Data Transmission
Unit, 1014 Remote Inquiry Unit, and 1448 Transmission
Control Unit will be withdrawn from the product line along
with their features.

Orders for these units received and time-stamped in the
Branch Office prior to January 1 will be handled as before,
on an "as available" basis only. Orders received during this
period will be accepted on a contingent basis and returned
to the customer if no units can be allocated by May 1,
1970. Customer initiated deferments of orders for which
units are allocated and a ship date established may result
in cancellation by IBM.

RPQs for special features and repeat orders for previously
designed RPQs will be individually considered and supplied
on an "as available" basis until further notice.
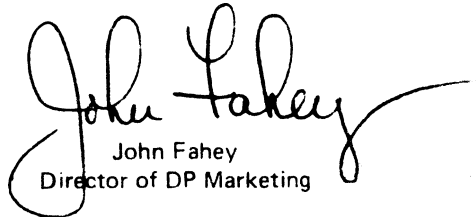
Action Required ... All affected customers must be notified
immediately in writing and all outstanding proposals must
be updated to reflect this change.

Customers should be advised that there is a limited ability
to satisfy requests for subject units. The 30-day period
implies no increase in ability to supply these products that
existed prior to this announcement.

**1012 PAPER TAPE PUNCH PRODUCTION
STATUS CHANGED**

Effective immediately, the IBM 1012 Paper Tape Punch is
in limited new production.

Action Required ... All customers affected by this release
must be notified promptly.

John Fahey
Director of DP Marketing

Distribution: All·Areas
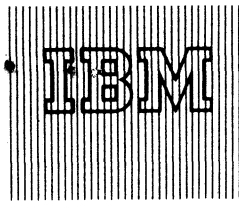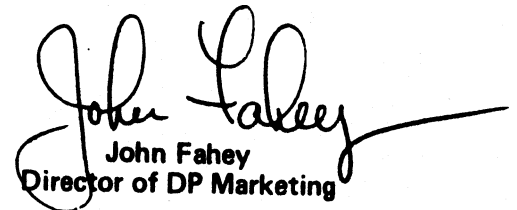
**47 MODEL 1 TAPE TO CARD
PRINTING PUNCH WITHDRAWN
FROM NEW PRODUCTION**

Effective immediately, the production status of the IBM 47 Tape to Card Printing Punch Model 1 is changed from "limited new" to "not in new production". New orders will be filled with reconditioned machines. The currently published delivery schedule remains in effect.

Action Required . . . All customers affected by this announcement must be notified promptly.

John Fahey
Director of DP Marketing

Distribution: All Areas
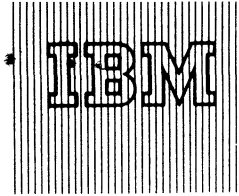
Miscellaneous Announcement
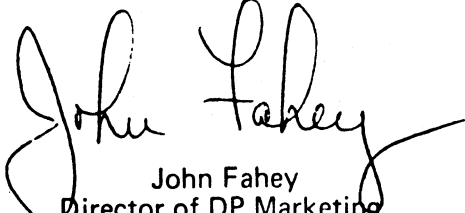
USER GROUPS

User groups are autonomous organizations, composed of IBM customers and prospects. All administrative and organizational matters pertaining to these organizations, as well as their periodic meetings, are under their own jurisdiction.

These organizations provide strong marketing advantages to IBM. They provide a great deal of information to their members, exchange programs and documentation, and work with IBM to ensure better user products. Therefore, all customers who do not belong to a user organization should be strongly encouraged to join one or all in accordance with the membership qualifications.

The major system-oriented groups are SHARE, GUIDE, and COMMON.

Additional detailed information about each of these organizations and their schedule of meetings is included in the attached General Information pages of the DP Sales Manual.

John Fahey
Director of DP Marketing

Attachments [2]:   G.I. 10.1 and 10.3
Distribution: All Areas

Product Announcement

2770 DATA COMMUNICATION SYSTEM ENHANCED WITH NEW OPTICAL MARK READ CAPABILITY

The 2770, announced on July 14, 1969, has the added capability of optical mark reading. Optional features are now available on the 2772 Multi-Purpose Control Unit and the 2502 Card Reader, Models A1 and A2, which allow pencil marked data to be read and transmitted by the 2770.

Highlights

. Up to 40 columns of pencil marked data read from an 80 column card.

. Marked and punched data read from the same card in one pass through the 2502.

. Offset stacking of cards which cannot be read sucessfully. (No data from the offset card is transmitted.)

. Any valid EBCDIC or USASCII character (depending upon the 2770 system code) can be marked on the card.

Delivery

First customer shipment will be in October, 1970.

Prices

	Rental(MAC)	Purchase	MMMC	FIC
On the 2772				
Feature No. 5450	$ 16	$ 704	$ 2	PCR
On the 2502				
(Mdl A1 & A2)				
Feature No. 5450	114	5,700	23	PCR

RPQ Support

RPQs will be accepted immediately. Response to these RPQs may require 120 days. Delivery will be a minimum of 120 days after first customer shipment of the features, with actual date dependent upon complexity of RPQ.

Programming

These features are supported under presently announced 2770 Data Communication System programming support which is:

DOS/BTAM available from WT Program Libraries June 30, 1970 - (P69-93)

OS/BTAM available from WT Program Libraries September 30, 1970 - (P69-93)

OS/TCAM available from WT Program Libraries 1Q71 - (P69-91)

Publications

Publications support will be via a TNL to the 2770 Data Communication System Components Description SRL. The TNL will be available one month after this announcement.
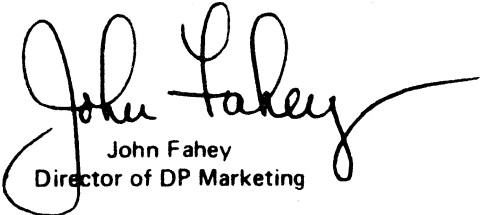
CANCELLATION OF 2826 MODEL 2; NEW CAPABILITY ON MODEL 1

Effective immediately, the 2826 Paper Tape Control Unit Model 2 can no longer be ordered. The 2826 Model 1 remains available with increased capability.

The 2826 Model 1 now has the new capability to attach 1017 Paper Tape Readers and 1018 Paper Tape Punches at a distance of up to 350 feet. Previous maximum distance was 25 feet. However, if the 1018 is equipped with the Error Correction Feature, the maximum distance between 1018 and 2826 Model 1 remains 25 feet.

Modifications to existing orders to include this maximum distance capability may result in a delay in delivery. Reschedules as required may be negotiated through Country Orders and Schedules.

Action Required ... Outstanding proposals for the 2826 Model 2 must be changed to reflect this cancellation. New orders will not be accepted.

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

EXTENDED CURSOR CONTROL FEATURES ENHANCE OPERATION OF 2260/2848

New special features enhance operation of the IBM 2260 Display Station and 2848 Display Control. Extended Cursor Control is now available on the 2260 through Feature No. 3605, 3606 or 3607, and on the 2848 through Feature No. 3901.

Highlights ... These features, all of which are field installable, permit the following functions to be performed through added keys and modification of the space bar on the 2260 keyboard:

Tab: A single depression of the Tab key on the 2260 moves the cursor at high speed until a tab stop character (colon) is encountered. When no colon is present, or when the cursor is beyond the position of the last colon on the screen, the cursor will come to rest in the home position at the upper left-hand corner of the screen. This format control function permits the operator of a 2260 to access data fields rapidly and accurately on input operations.

Rapid Cursor: Full depression of the Space Bar provides continous movement of the cursor to the right at approximately ten characters per second. When the shift key is depressed coincident with the rapid cursor operation, a rapid erase occurs.

Erase to End of Line: Depression of the ERAS-EOL key erases all information starting at the character position immediately to the right of the cursor to the end of the line. At the end of this operation, the cursor is found in the same location it occupied before the operation.

Erase to End of Screen: Depression of the ERAS-EOS key erases all information starting at the character position immediately to the right of the cursor to the end of the screen. At the end of this operation, the cursor is found in the same location it occupied before the operation.

Prerequisite ... A prerequisite for Extended Cursor Control is Non-Destructive Cursor (5340) and Non-Destructive Cursor Adapter (5341) on the 2848.

Delivery ... First customer shipments for both features will be in November, 1969.

Programming Support ... No new Programming Support or changes to existing programming support are required for these features.

RPQs ... RPQs to modify these features will be accepted immediately. Response time and delivery will depend on complexity.

All 2260s and 2848s with RPQs must be reviewed for compatability with 3605, 3606, 3607 and 3901 before ordering the features. The new features are not compatible with existing 2260 keyboard RPQs other than those listed below.

Publications ... Availability of a TNL to SRL A27-2700 describing the features will be announced in a Publications Release Letter. Advance copies will be shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Penna.

Action Required ... These new features presently exist via the following RPQs:

    3605 - RPQ 880894 with 4765
    3606 - RPQ 880894 with 4766
    3607 - RPQ 880894 with 4767
    3901 - RPQ 858195

Customers with these RPQs installed or on order must be advised promptly of the new status. On-order RPQs (880894, 858195) will be honored as feature deliveries with no change in delivery date. Effective the date of this announcement, the country headquarters will adjust on-order records and rental and maintenance agreement records to convert the RPQs to features and reflect price changes. No reporting to the country headquarters by the branch office is required to effect this change.
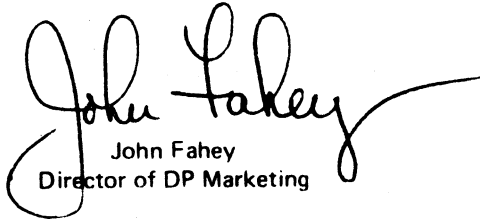
Prices ...

	MAC	Purchase	MMMC	FIC
Keyboard (3605) Alphameric-Numeric Inset	40	1,200	6.00	PCR
Keyboard (3606) Alphameric	31	900	2.50	PCR
Keyboard (3607) Numeric	20	600	2.00	PCR
Display Control (3901)	47	1,740	1.00	PCR

Distribution: All Areas

2845 AND 2848 CORE REQUIREMENTS

Effective diagnostic support of the IBM 2845 and
2848 Display Controls requires the following mini-
mum core storage:

. For display control use with System/360
  Models 25 and 30 — at least 16K bytes
  of core.

. For use with System/360 Models 40
  through 85 — at least 32K bytes.

Action Required ... Review all outstanding proposals
to ensure that they are consistent with these mini-
mum requirements.

John Fahey
Director of DP Marketing

Product Announcement

WITHDRAWAL OF SYSTEM/360 MODEL 65G, ASSOCIATED 2365 MODEL 1

Because the widespread trend toward larger memories on the System/360 Model 65 indicates no requirement for the Model G, the 2065 Model G and the associated 2365 Model 1 are withdrawn.

Action Required ... Any outstanding proposals for this model must be changed to reflect this announcement, and new orders for the System/360 Model 65G will not be accepted. All other models of the Model 65 continue to be available.

Orders now in the backlog will be offered a scheduled delivery date. The customers should be informed that failure to accept the scheduled delivery or any delay or postponement of an order in the backlog may result in cancellation of that order.

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

LINEAR PROGRAMMING SYSTEM/1130 (LPS/1130) PROGRAM PRODUCT 5711-CO1 READY FOR SHIPMENT

NOTE: This Program Product can be ordered only if the criteria specified in DP Letter No. 69-250 are met. Consult the Instruction Manual, Section 2-10 for the Instruction Manual pages that accompanied Instruction Letter No. 69-84 for ordering procedures.

Linear Programming System/1130 (LPS/1130), Program Product 5711-CO1, is ready for shipment at PID. It provides easy-to-use and easy-to-understand means of solving linear programming problems. LPS/1130 offers many significant advantages over LP-MOSS/1130. Performance is substantially better than LP-MOSS/1130 and, in addition, LPS/1130 will take advantage of additional core storage and input-output devices. Input data for LPS/1130 are compatible with those of LP-MOSS/1130 and LPS/360.

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.
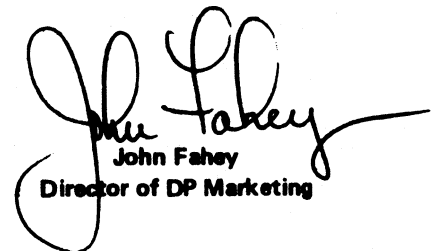
Configuration Information ... When using the minimum 8K configuration, LPS/1130 has a logical processing capacity for 500 rows; over 600 disk sectors are available for data storage on this single disk system.

LPS/1130 has a logical processing capacity of 1,500 rows on a 16K or larger 1130; 3,120 disk sectors are available for data storage if three disks are used.

Since problem capacity is limited by disk storage space available, more than one disk may be required to process larger problems. For example, many 500 row problems will require two disks, and many 1,500 row problems will require three disks. The system scaling procedures and inversion methods are designed to produce accurate, reliable solutions within the limit of a 31-bit mantissa.

Programming System ... The system is written almost entirely in FORTRAN with some Assembler language routines.

More information is in the sales manual write-up on page 3 of this announcement.

John Fahey
Director of DP Marketing

Cancels: Letter No. 69-287 (Changes are indicated by brackets)

Distribution: All Areas

PROGRAM PRODUCT SPECIFICATION

Linear Programming System/1130 (LPS/1130) Program Product 5711-C01

LPS/1130 is composed of procedures which are stored on disk. Use of these procedures is governed by procedure control cards which specify the execution sequence. LPS/1130 procedures provide for:

. Solution of Linear Programming (LP) problems with bounded variables and range constraints.
. Specification of a starting solution basis.
. Discrete parametric analysis of all problem data.
. Determination of Activity-Cost-Bound relationships for all variables.
. Combination of problems to form master problems.

LPS/1130 has a logical processing capacity of 500 rows on an 8K 1130 and 1,500 rows on a 16K or larger 1130. Other factors limiting actual problem capacity are the amount of disk storage available, arithmetic accuracy, and time required to solve large problems.

Input data may originate on cards and be stored on disk for subsequent processing. A disk may contain one or more problems, which can be updated and rerun. Disk-stored data can be referenced for new-problem preparation. A problem may contain alternate objectives and may include alternate sets of problem bounds.

Input data to LPS/1130 are compatible with those of LP-MOSS/1130 and LPS/360.

Output reports are available on cards or printer. Output options include a solution report, a solution analysis report, and parametric reports.

LPS/1130 execution requires at least an 1130 Model 2B (8,192 core storage and one disk storage device) and one of the following:

. 1442 Card Read Punch Model 6 or 7
. 2501 Card Reader
. 1134 Paper Tape Reader

LPS/1130 system generation and maintenance requires at least an 1130 Model 2B and one of the following:

. 1442 Card Read Punch Model 6 or 7
. 2501 Card Reader and 1442 Card Punch Model 5
. 2501 Card Reader and 1442 Card Read Punch Model 6 or 7

The 1130 system used to generate LPS/1130 must have at least as much core storage and at least as many disk storage drives as the 1130 system on which LPS/1130 will be used.

A paper-tape-only configuration may not be used for system generation and maintenance. To run the sample problem on a paper-tape-only LPS/1130 system, the cards must be put on paper tape. To do this a 1055 Paper Tape Punch is required in addition.

Compilation of LPS/1130 source decks requires at least an 1130 Model 2B and one of the following:

. 1442 Card Read Punch Model 6 or 7
. 2501 Card Reader

LPS/1130 can use up to 32,768 words of core storage and up to three disk storage drives. LPS/1130 can also use an 1132 Printer, 1403 Printer, 1442 Card Punch Model 5, and a 1055 Paper Tape Punch.

LPS/1130 versions can be generated for three core sizes: 8K, 16K, and 32K (K=1,024). When executing, LPS/1130 uses all of the core for which it was generated, except for the amount used by the 1130 Monitor. The programs for the 16K and 32K versions use the same amount of core as the programs for the 8K version (except for several programs which use locals on the 8K version). The extra core on the 16K and 32K versions is used for larger data storage.

The source language of LPS/1130 is primarily FORTRAN with some Assembler Language routines. LPS/1130 operates under the control of the IBM Disk Monitor System Version 2.

THIS PAGE MAY BE REPRODUCED AND GIVEN TO CUSTOMERS.

Linear Programming System (5711-CO1): The Linear Programming System/1130 (LPS/1130) provides 1130 Disk Monitor Version 2 users with a simple, easy-to-use and easy-to-understand means of solving linear programming problems. It offers many significant advantages over LP-MOSS/1130. Performance is substantially better than LP-MOSS/1130 and, in addition, LPS/1130 will take advantage of additional core storage and input-output devices. Input data for LPS/1130 are compatible with those of LP-MOSS/1130 and LPS/360.

Description: Mathematical optimization is any mathematical technique for determining the optimum use of various resources to attain a particular objective (such as minimum cost or maximum profit) when there are alternate uses for 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/1130 has a logical processing capacity for 500 rows on an 8K 1130 and 1,500 rows on a 16K or larger 1130. Since problem capacity is limited by disk storage space available, more than one disk may be required to process larger problems. For example, many 500 row problems will require two disks, and many 1,500 row problems will require three disks. Problem size is also limited by the arithmetic accuracy of the 1130.

Features: Large problem capacity (500 rows on an 8K 1130 and 1,500 rows on a 16K or larger 1130)...flexible processing control (optional conditional control of processing sequence)...simple problem definition (easy-to-use format and extensive data maintenance functions, specifications 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 ($\leqslant$ and $\geqslant$) 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/1130 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, a solution analysis report, and parametric analysis reports.

Special Sales Information: On a minimum 1130 System (8K, 1 disk, 3.6 microsec), LPS/1130 is generally 1.5 to 2.0 times faster during the optimization phase than LP-MOSS/1130 for all but very small problems (under 30 rows). Further improved performance over the minimum system can be gained by the use of faster core (2.2 microsec), larger core sizes (16K or 32K), or more disks. Further details on LPS/1130 timing can be found in the Timing Estimates section of the LPS/1130 Application Description Manual or the LPS/1130 Program Description Manual.

To use the LPS sample problem for a short demonstration see the time Requirements for Generation section in the LPS/1130 Operations Manual.

To process the optional machine readable tape (source code) a System/360 with one 2400 series tape drive is required.

Customer Responsibility: A working knowledge of the 1130 Disk Monitor Version 2 is recommended for installation. Since the LPS documentation is written in a tutorial fashion, little mathematical background or linear programming experience is needed.

Programming Systems: The source language of LPS/1130 is primarily FORTRAN with some Assembler Language routines. LPS/1130 operates under the control of the IBM 1130 Disk Monitor System Version 2.

Machine Configuration: LPS/1130 execution requires at least an 1130 Model 2B (8,192 core storage and one disk storage device) and one of the following:

- . 1442 Card Read Punch Model 6 or 7
- . 2501 Card Reader
- . 1134 Paper Tape Reader

LPS system generation and maintenance requires at least an 1130 Model 2B and one of the following:

- . 1442 Card Read Punch Model 6 or 7
- . 2501 Card Reader and 1442 Card Punch Model 5
- . 2501 Card Reader and 1442 Card Read Punch Model 6 or 7

The 1130 system used to generate LPS must have at least as much core storage and at least as many disk storage drives as the 1130 system on which LPS will be used.

A paper-tape-only configuration may not be used for system generation and maintenance. To run the sample problem on a paper-tape-only LPS system, the cards must be put on paper tape. To do this a 1055 Paper Tape Punch is required in addition.

Compilation: of LPS source decks requires at least an 1130 Model 2B and one of the following:

- . 1442 Card Read Punch Model 6 or 7
- . 2501 Card Reader

LPS can use up to 32,768 words of core storage and up to three disk storage drives. LPS can also use an 1132 Printer, 1403 Printer, 1442 Card Punch Model 5, and a 1055 Paper Tape Punch.

The recommended 1130 system for good performance and easy operation includes a Model 2C (16,384 core storage and one disk storage device), a 2310 Disk Storage Device Model B1, a 1442 Card Read Punch Model 6 or 7 (or a 2501 Card Reader) and an 1132 Printer (or a 1403 Printer).

LPS versions can be generated for three core sizes: 8K, 16K and 32K (K=1,024). When executing, LPS uses almost all of the core for which it was generated, except for approximately 530 words used by the 1130 Monitor. The programs for the 16K and 32K versions use the same amount of core as the programs for the 8K version (except for several programs which use locals on the 8K version). The extra core on the 16K and 32K versions is used for larger data storage.

Basic Program Product Offering

Basic Licensed Program Product Machine Readable: One copy machine readable material consisting of Object Program Load Modules, Mainline Source Programs, and Sample Problem available on one 2315 Disk Cartridge.

Basic Unlicensed Program Product Documentation: One copy Program Description Manual (H20-0633)...One copy Operations Manual (H20-0637) with TNL (N20-2037).

General Product Documentation: One copy Application Description Manual (H20-0562-1) with TNL (N20-2033).

	Specify	Description
Order from IBM	9158	2315 Disk Cartridge

Optional Program Product Offering

Modification Support Package

Related Optional Licensed Program Product Material: One copy machine readable material consisting of distributed source decks (except those obtained with Basic Program Offering) available on one magnetic reel of tape.

Related Optional Licensed Program Product Documentation: One copy System Manual (Feature No.8806)...One copy Compilation/Assembly Listings Manual (Feature No.8807).

	Feature No.	Track Density	Description
Order from IBM	7014	9/800	2400' Reel

Prices:

Type	Program No.	DPMO	Service Class
5711	CO1	CO1	B

Prices for Additional Copies of Documentation †:

Licensed Documentation	Single Use Charge/Copy
Systems Manual (Feature No.8806) (Y20-0445)*	$31.65
Compilation/Assembly Listings Feature No.8807) (Y20-0438)*	42.20

Unlicensed Documentation (order from IBM Distribution Center, Mechanicsburg, and bill customer).

	Selling Price/Copy
Program Description Manual (H20-0633)	$3.55
Operations Manual (H20-0637)	1.15

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)...Linear Programming System/360 Application Description Manual (H20-0513). Advance copies have been shipped. Additional copies will be available from the IBM Distribution Center, Mechanicsburg, Pennsylvania.

* Order by form number for IBM Internal Use Only.

Product Announcement

ATTACHMENT OF 1287 OPTICAL READER AND 1288 OPTICAL PAGE READER TO S/360 MODELS 65, 65MP, 75 AND 67 IN 65 MODE

The IBM World Trade Corporation announces the attachment of the IBM 1287 and IBM 1288 Optical Readers via the IBM 2870 Multiplexer Channel to System 360 Models 65, 65MP, 75 and 67 when in Model 65 mode.

This capability provides IBM large system users with the broad range of Optical Character Recognition facilities of the IBM 1287 and 1288.

First customer shipments, for attachment to the subject System 360 Models, will be in January, 1971.

OS/360 for the 1287 and 1288, announced in IBM Program Announcement Letter P69-101 dated September 16, 1969, will support these machines on System 360 Models 65, 65MP, 75 and 67 when in Model 65 mode.

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

PROJECT MANAGEMENT SYSTEM/360 VERSION 3 PROGRAM PRODUCT 5734-XP1 MAY NOW BE ORDERED

NOTE: This Program Product can be ordered only if the criteria specified in DP Letter No. 69-250 are met. Consult the Instruction Manual, Section 2-10 for the Instruction Manual pages that accompanied Instruction Letter No. 69-114 for ordering procedures.

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 may now be ordered.

On the reverse side is the Program Product Specification sheet which may be reproduced and given to customers.

Detailed information is on pages 3 and 4.

John Fahey
Director of DP Marketing

Distribution: All Areas

PROGRAM PRODUCT SPECIFICATION

Project Management System/360 Version 3 (5734-XP1)

The IBM System/360 Project Management System (PMS/360) is a collection of computer program modules that can be combined to form the data processing elements of various management system applications for cost and scheduling planning and control. PMS/360 modules provide for:

. critical path and general cost analyses
. PERT and PERT COST capability
. resource allocation
. flexible report generation

PMS/360 can handle subnets ranging in size from 1,000 activities in a 44K region up to 32,000 in a 1004K region. Up to 253 subnets may be contained in a network and up to a combined total of 254 different networks and subnets can be held on one masterfile. Over 32,000 different resources are allowed and up to 25 resources may be specified per activity. The work breakdown structure allows up to 32,765 charge numbers at each of nine levels.

System Configuration: PMS/360 with the Resource Allocation Processor requires a minimum of 128K bytes of core storage including OS/360 requirements and at least two 2311 Disk Storage Drives. PMS/360, without the Resource Allocation Processor, requires a minimum of 44K bytes of core storage over and above the requirement of OS/360. 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.

I/O Device Requirements: Peripheral devices supported by PMS/360 include all devices supported by OS/360 where QSAM is an accepted access method. PMS is generally device independent. However, in the Report Processor (for cost reports), ORDFILE must be a tape as it is read backwards. Also, in the Resource Allocation Processor, the file QFILE must be on a direct access device. Minimally PMS/360 needs one tape and two direct access devices over and above OS/360 requirements.

Programming Systems: PMS/360 is written in OS/360 Assembler language and operates under the control of OS/360 using QSAM and BDAM data access methods. PMS/360 requires the Sort/Merge and Utilities components of the System/360 Operating System.

THIS PAGE MAY BE REPRODUCED AND GIVEN TO CUSTOMERS

Project Management System (5734-XPI):   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 management with tools needed for making more accurate delivery promises, spotting out-of-line conditions, meeting schedules, and 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, are 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 collection of computer program modules that can be combined to form the data processing elements of various management systems 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 network 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 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 techniques. 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 - 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.

PMS/360 Resource Allocation Processor -- This processor is a dependent module of PMS/360. It must take its input from the Network Processor and can only 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 ... full 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 ... more than 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.

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 (H20-0690). 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: PMS is written in OS/360 Assembler Language, operates under the control of OS/360, and 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 users' choice) will require a minimum of 44K data bytes over and above the requirements for OS/360. For large 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. 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
13920	492K	13,244K
32000	1004K	22,400K

Essentially, this table is based on a peripheral storage byte requirement of 700 bytes per activity.

Basic Program Product Offering:

Unlicensed Documentation: One copy of PMS/360 Program Description and Operations Manual (H20-0677).

Licensed Machine Readable Material: One copy each of program load modules, sample problems, and assembly macros.

	Specify Number	Track/Density	Description	Quantity
Order from IBM	9126	7DC/800	2400' MT	1 reel
	9128	9/800	2400' MT	1 reel
	9129	9/1600	2400' MT	1 reel

Type	Program Number	DPMO	Programming Service Classification
5734	XP1	XP1	B

Optional Support Package:

Licensed Documentation: One copy each of Network Processor System Manual Feature (#8101) ... Cost Processor System Manual (#8102) ... Report Processor System Manual (#8103) ... Resource Allocation Processor System Manual (#8104) ... Flowchart Manual (#8105) ... Microfiche Listings (#8301).

Licensed Machine Readable Material: One copy of source Listings.

	Feature Number	Track/Density	Description	Quantity
Order from IBM	7126	7DC/800	2400' MT	1 reel
	7128	9/800	2400' MT	1 reel
	7129	9/1600	2400' MT	1 reel

There will be no charge for the Optional Support Package.

Prices for Additional Copies of Documentation:

Unlicensed Documentation (order from Mechanicsburg, bill customer):

	Use Key	Price/Copy
Program Description and Operations Manual (H20-0677)	D	19.00

Licensed Documentation (order by feature code from PID):

	Use Key	Price/Copy
Network Processor System Manual (#8101) (Y20-0457*)	D	8.20
Cost Processor System Manual (#8102) (Y20-0459*)	D	4.60
Report Processor System Manual (#8103) (Y20-0467*)	D	8.20
Resource Allocation Processor System Manual (#8104) (Y20-0456*)	D	4.70
Flowchart Manual (#8105) (Y20-0460*)	D	22.80
Microfiche Listings (#8301) (YB0-0454*)	D	122.00

*For IBM Internal Use, order by form number.

Related Documentation (available only from Mechanicsburg ... no charge): PMS/360 Application Description Manual (H20-0690) Use Key G.

For further information contact your local Industry Marketing Representative.

Miscellaneous Announcement

RPQ PROCESSING TIME

DP Letter No. 69-246 announced a list of those most commonly supplied RPQs which may now be ordered in the same way as standard machines or features.

For other non-standard machines, features, functions, first of a kind modifications, or alterations to a specific machine type and serial number, existing RPQ WTC Instruction Manual procedures must be followed. The customer must recognize that customized engineering service requires time to properly evaluate requirements. However, IBM recognizes the need to provide our customers with guidelines as to the response they can expect to their requests and the additional need to provide targets for each division of IBM involved. While every RPQ is handled expeditiously, 65 days (Branch receipt date to customer notification date) can be considered the turn-around time when customized engineering is required for technical evaluation of the RPQ, and if approved, the determination of prices, terms and conditions. (Fifty days is allowed from receipt at Custom System or Special Engineering Laboratories to Country Special Equipment Engineering Processing Location notification; the remaining 15 days is for processing in DP Marketing).

However, there will be unique situations where this response objective cannot be met. In such cases, Special Equipment Engineering will advise the Country, within 30 days after receipt of a request, of a target date when a response will be provided to the customer.

Branch Offices must not make commitments, express or implied, that such RPQs will be made available until approvals have been obtained from Special Equipment Engineering and Systems Assurance. Following receipt of the Approval to Order Copy of the RPQ, the Branch Office may accept the customer's authorization.

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

1130 COMPUTING SYSTEM . . . 210 LINES PER MINUTE PRINT CAPABILITY

IBM World Trade announces an additional print capability of 210 LPM for the 1130 Computing System.

This capability is provided through the release of a new attachment feature, (FC4423) housed in the 1133 Multiplex Control Enclosure. The 1403-6 may be operated at either the new 210 LPM or existing 340 LPM, depending on the printer attachment chosen.

Also the Channel Multiplexor (FC1865) housed in the 1133 Multiplex Control Enclosure is reduced in price. This change enhances the opportunity to attach the buffered printer series 1403-6 (210 LPM and 340 LPM) and 1403-7, as well as to attach the 2310 Disk Storage Drive to the System.

Highlights

Easier growth path from the 1132 printer (80 LPM) to the BUFFERED 1403 series. Throughput improvement satisfies requirement most often demanded by users. Upgrade to both the 1403 printer series and disk storage is very attractively priced due to reduced prices and common feature requirements.

Delivery

First Customer Shipment of MES orders for FC4423 is October 1970. Delivery of new 1133's with FC4423 installed is coincident with published delivery schedules for the 1133, but October 1970 at the earliest.

Source of Supply

Greenock

RPQ's

Accepted immediately

Programming Support

The 1403-6 (210 LPM) printer is fully program supported under the 1130 Disk Monitor System, Version 2, with the existing 1403 Model 6 and 7 support.

Publication Support

The publications revisions covering the availability of this new feature (FC4423) will be incorporated into the required manuals by the indicated target dates.

1130 Configurator A26-5915	2/15/70	(Revision)
1130 System Summary A26-5917	1/15/70	(Revision)
1130 Functional Characteristics A26-5881	2/28/70	(TNL)
1130 Operating Procedures A26-5717	1/19/70	(TNL)
1133 FET-M 426-4014	4/30/70	(FES)

Initial copies will be distributed when ready through DAPS and SRL/SS. Availability for ordering from the IBM Distribution Center, Mechanicsburg, will be announced in the weekly Publications Release Letter.
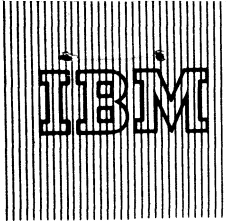
Rental Plan, Educational Allowance and Program Test Allowance for the 1130 System, 1133 Multiplex Control Enclosure, and 1130 Programming System remain the same as currently specified.

Prices

Feature	Rental (MAC)	Purchase	MMMC	FIC
FC4423	$205	$10,300	$ 30	PCR
FC1865	125	6,250	10	PCR

John Fahey
Director of DP Marketing

Distribution: All Areas

Product Announcement

INFORMATION MANAGEMENT SYSTEM/360 (IMS/360) PROGRAM PRODUCT (5736-CX3) IS NOW AVAILABLE THROUGH PID

IMS/360 enhances the capability of the Operating System/360 and facilitates implementation of medium to large common data bases in a multi-application environment. This environment accommodates both teleprocessing and conventional batch processing concurrently or separately. The system allows the evolutionary expansion of data processing applications from an IMS/360 batch to an IMS/360 teleprocessing environment.

IMS/360 includes basic support for the remote 2260 Display Station Model 1 and the 2848 Display Control Unit Model 3. Support will be limited to single screen transmission with message length being 960 characters maximum.

Information regarding 2260 support has been incorporated into the Application Description Manual (H20-0524) by a Technical Newsletter (N20-2012).

The combined teleprocessing data base facilities of the Information Management System/360 operate under Operating System/360 MFT (Multiprogramming with a Fixed Number of Tasks) or MVT (Multiprogramming with a Varied Number of Tasks).

The batch-only data base facilities of IMS/360 can operate under Operating System/360 PCP (Primary Control Program), MFT, or MVT.

The data base processing facilities are provided by a data management concept known as Data Language/I. These facilities assist the data base definition, creation, access, and maintenance functions.

Highlights ...

. The user can enter messages from remote input/output devices allowing both data base inquiry and update.

. The user can transmit messages to remote input/output terminals in response to application program message processing.

. A terminal command language provides for system control from a master terminal and for input message editing through all terminals of the system.
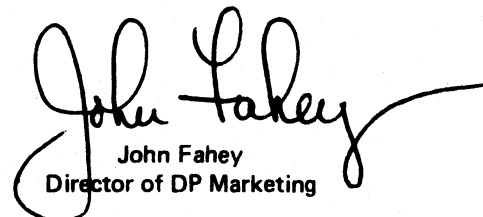
. Programs for message processing can be scheduled concurrently where each program is operative under a unique storage protection key of OS/360.

. Centralized definition and control of data base facilities are provided through Data Language/I to help the user maintain data base integrity in the teleprocessing multiprogramming environment.

. The system provides checkpoint/restart capabilities.

On the reverse side is the Program Product Specifications sheet which may be reproduced and given to customers.

Detailed information is in the sales manual write-up on pages 3 and 4 of this announcement.

John Fahey
Director of DP Marketing

Note: This Program Product is available only under the provisions of DP Letter No.69-250. Qualifying orders must be processed in accordance with WT Instruction Letter No. 69-84.

Distribution: All Areas

PROGRAM PRODUCT SPECIFICATION

<u>Information Management System/360 (IMS/360) 5736-CX3</u>

The IBM System/360 Information Management System (IMS/360) enhances the capability of the Operating System/360 and facilitates the implementation of medium to large common data bases in a multi-application environment. This environment accommodates both teleprocessing and conventional batch processing operations concurrently or separately. IMS/360 has four major objectives:

1. To provide data organization methods that are conducive to the creation and maintenance of large common data bases and the multi-application use of these data bases.

2. To provide the means to permit the user to facilitate development and maintenance of a data base system in the batch processing environment.

3. To provide the user with the ability to extend his data base processing to the teleprocessing or data communication environment.

4. To provide the user with an efficient telecommunication ability for developing a high volume/rapid response on-line system.

IMS/360 is made up of two major components: (1) the data base facility and (2) the data communication facility.

Data Base Facility -- The data base processing capabilities of IMS/360 are provided through a facility called Data Language/I. The functions of data base definition, creation, access, and maintenance are assisted by these capabilities. The full data base facilities of Data Language/I can be used in the IMS/360 batch processing or teleprocessing environment.

Data Communication Facility -- Data communication capabilities are characterized by the use of remotely located input/output terminals, connected to the computer, which provide the user with access to the data base. The communication network, consisting of IBM 2260 Display Stations and 1050 and 2740 communications terminals, enables the system to receive and transmit a variety of message types for multiple applications. Terminals need not be dedicated to specific applications. 2260 support is limited to single screen transmission only (maximum single message length of 960 characters) between the terminal and the message processing programs or other terminals. In addition, a 2260 cannot be designated as a master terminal.

Control information describing each message type allows the system to initiate message processing or message switching. Message entry may result in both data base inquiry and update processing. A user-provided library of application programs for message and batch processing and a description of their data base requirements must be provided. These application programs may be written in any of the following OS/360 programming languages: Assembler Language, COBOL, or PL/I.

<u>Programming Systems</u>: IMS/360 operates under Operating System/360 and is written in Assembler Language; teleprocessing and batch processing application programs may be written in either Assembler Language, COBOL, or PL/I. For proper execution of IMS/360, system definition and system execution must be performed under the same OS/360 release.

The batch-only system operates under PCP, MFT, or MVT and uses Sequential Access Methods and Indexed Sequential Access Methods.

The teleprocessing and related batch system operate under MFT or MVT and, in addition to the items above, use:

BTAM (with Communications Serviceability Facilities), SER 1 or Recovery Management Support, Sort/Merge service program (used by the IMS/360 System Log Utility Program), User-added SVC routines (three SVC numbers must be reserved for IMS/360).

If using MFT, Storage Protection and Interval Timing are required, PCI Fetch, Resident Access Methods, and Resident IDENTIFY and ATTACH macro instructions are highly recommended.

<u>Minimum Machine Configurations</u>: Input/output facilities used by batch-only IMS/360 (in addition to those required by OS/360, other non-IMS/360 application programs, and the data base itself), include one 7-track (Data Conversion Feature required) or one 9-track magnetic tape unit (required for system distribution and maintenance) ... 300 cylinders of 2311 Disk Storage for program storage and work space (or equivalent 2314 space). Additional input/output used by the teleprocessing IMS/360 program include at least one 1050 Data Communication System or 2740 Communication Terminal with appropriate control units ... a total of two 9-track magnetic tape units. The 2260 Display Station can be added, but cannot be used as an IMS/360 Master Terminal.

Minimum system requirements are 128K bytes for batch-only PCP operation, and 256K bytes for teleprocessing with MFT. In the latter case, the system for all practical purposes, would be dedicated to on-line IMS/360 applications.

THIS PAGE MAY BE REPRODUCED AND GIVEN TO CUSTOMERS

Information Management System (IMS/360) (5736-CX3): IMS/360 enhances the capability of the Operating System/360 and facilitates the implementation of medium to large common data bases in a multi-application environment. This environment accommodates both teleprocessing and conventional batch processing operations concurrently or separately. The system allows the evolutionary expansion of data processing applications from an IMS/360 batch to an IMS/360 teleprocessing environment.

The combined teleprocessing and data base facilities of IMS/360 operate under OS/360 MFT (Multiprogramming with Fixed Number of Tasks), or MVT (Multiprogramming with Variable Number of Tasks). If only the data-base batch facility is required the system will operate under OS/360 PCP (Primary Control Program) as well as MFT and MVT.

Description: IMS/360 operates within the definition and capabilities of OS/360 teleprocessing capabilities and is characterized by the use of remotely located input/output terminals, connected to the computer, which provide the user with ready access to the computer-maintained data base. The communications network consisting of 2260 Display Stations and 1050 and 2740 communications terminals enables the system to receive and transmit a variety of message types for multiple applications. Terminals need not be dedicated to specific applications. The 2260 support is limited to single screen transmission only (maximum single message length of 960 characters) between the terminal and message processing programs or other terminals. In addition, a 2260 cannot be designated as a master terminal.

Control information describing each message type allows the system to initiate message processing or message switching. Teleprocessing includes both data base inquiry and update processing. A user-provided library of application programs for message and batch processing and a description of their data base requirements must be provided for IMS/360 to enable the scheduling of message processing. These application programs may be written in the following OS/360 programming languages: Assembler, COBOL, or PL/I.

The execution of message-processing programs is scheduled by IMS/360 based upon message priority.

Another characteristic of the system is the use of direct access storage devices which allow the processing of single records located at random in the data base, as well as the processing of records referenced in a sequential manner.

The data base processing capabilities of IMS/360 are provided through Data Language/I. The functions of data base definition, creation, access and maintenance are assisted by these capabilities. Data base definition provides for the description of a hierarchical data segment structure. Although data base maintenance is always initiated by message and batch processing programs, the description of a program's data base requirements, data base definition, and mechanics for data base maintenance are provided externally. The full data base capabilities of Data Language/I can be used independently of the other IMS/360 functions for data base batch processing.

IMS/360 provides the user with checkpoint/restart capabilities. The normal mode of initiating the system is through these restart capabilities. Manual intervention is always required to initiate restart.

Features: IMS/360 is a general-purpose system ... the user tailors the system to his environment ... data base support supplied through Data Language/I ... application program independence from OS/360 data management access methods and organization ... variable-length record support ... application programs may be written in COBOL, PL/I, or Assembler Language ... application-independent support of 1050, 2740 and 2260 terminals ... dialin and multidrop communication line support for 2740/1050 ... single screen per message 2260 support ... teleprocessing or batch operations separately or concurrently ... security techniques available to user ... checkpoint/restart capability ... storage protection provided for each application processing program.

Use: The user of IMS/360 has the capability of structuring data bases, defining various applications, and tailoring the input/output terminal and data storage environment. He uses utility programs supplied to construct control blocks which tailor the system to his environment.

Special Sales Information: The program is designed for users with workloads of varying sizes and complexities. Primary users will be large data base oriented organizations.

The marketing representative should be cautioned that the development of a customer data base and placing it on-line can be a large and complex undertaking. Complete understanding of the applications and programming systems is essential. The development, by the marketing representative with the customer, of a thorough and effective implementation plan is the key to the successful installation of IMS/360. The normal implementation is a phased approach. The initial phase permits batch processing against the data base. Once data base experience is gained and the application needs dictated the teleprocessing phase can be initiated.

A reasonably simple application should be implemented initially, preferably in a test environment. The power of IMS/360 can be appreciated and effectively employed only as experience is gained in the use of its basic capabilities. Particular emphasis must be placed on system design to allow movement from batch processing to on-line processing with a minimum of difficulty. In addition, application program design, data base design and retrieval techniques require careful thought. Poor application design can result in excessive use of core storage and degraded performance.

Branch Office Responsibilities: In planning for the successful implementation of IMS/360, a prerequisite is that the branch office understand the complexity of the system design activity required.

IMS/360, when used as a tool to implement an information system, requires all of the care and planning necessary for the successful implementation of any information system. The marketing representative should inform the user of the importance of appropriate education and training at all technical and management levels that would be affected by the implementation of such a system.

The marketing representative should be certain that the hardware configuration selected for the IMS/360 environment will meet the requirements of the customer applications. The branch is to obtain the approval of its district for all items on the District/Area Approval List, under the Branch Marketing Assessment Program.

Customer Responsibilities: A customer installing IMS/360 must meet Minimum Machine Configurations (paragraph below) ... see to it that appropriate OS/360 and System/360 training (including terminal and direct access storage education) be given to the system analysts, application programmers, system programmers and system operators ... have OS/360 installed successfully (no customer should attempt to implement IMS/360 until the installation has achieved proficiency in the use of OS/360) ... provide adequate protection against the accidental loss or misuse of his data (functions exist within IMS/360 to assist in providing data security) ... plan for installation and operation of his remote terminals ... make sure personnel are trained in COBOL, PL/I, or Assembler Language ... define parameters for each data processing application defined: the definition of each Data Language/I data base; the definition and construction of all messages and batch processing programs; the definition of various message types and their associated processing programs; the definition of the communication network utilized by the application program; the user must also structure IMS/360 by the creation of a control block for each communication line, terminal, message type, message processing program, and data base.

Programming Systems: IMS/360 operates under Operating System/360 and is written in Assembler Language; teleprocessing and batch processing programs may be written in either Assembler Language, COBOL, or PL/I. For proper execution of IMS/360, system definition and system execution must be performed under the same OS/360 release.

The batch-only system operates under PCP, MFT, or MVT and uses Sequential Access Methods and Indexed Sequential Access Methods.

The teleprocessing and related batch system operate under MFT or MVT and, in addition to the items above, use:

BTAM (with Communication Serviceability Facilities), SER1 or Recovery Management Support, Sort/Merge service program (used by the IMS/360 System Log Utility Program), User-added SVC routines. (Three SVC numbers must be reserved for IMS/360.)

If using MFT, Storage Protection and Interval Timing are required, PCI Fetch, Resident Access Methods, and Resident IDENTIFY and ATTACH macro instructions are highly recommended.

Minimum Machine Configurations: Input/output facilities used by batch-only IMS/360 (in addition to those required by OS/360, other non IMS/360 application programs, and the data base itself) include one 7-track (Data Conversion Feature required) or one 9-track magnetic tape unit (required for system distribution and maintenance) ... 300 cylinders of 2311 Disk Storage for program storage and work space (or equivalent 2314 space). Additional input/output used by the teleprocessing IMS/360 program include at least one 1050 Data Communication System or 2740 Communication Terminal with appropriate control units ... a total of two 9-track magnetic tape units. The 2260 Display Station can be added, but cannot be used as an IMS/360 Master Terminal.

The supported terminals and required features are:

2740 Model 1 - Nonswitched Network: Record Checking (#6114); Station Control (#7479); Terminal to Multiplexer (#9700); Dual Case Printing Element (#9571 or #9591); Automatic EOB (#1313) - [See note below] .

2740 Model 1 - Switched Network; Record Checking (#6114); Transmit Control (#8028); Terminal to Multiplexer (#9700); Dual Case Printing Element (#9571 or #9591); Automatic EOB (#1313) - [See note below].

1050 System - Nonswitched and Switched Network: 1051 Model 1 or 2 with First Printer Attachment (#4408); Keyboard Request (#4770); Automatic EOB (#1313); 1052 Model 1 or 2 with Dual Case Printing Element (#9571 or #9591); Automatic EOB (#1313) - [See note below].

2260 Model 1 - Nonswitched Network: 2848 Display Control Model 3 with Display Adapter (#3357); Line Addressing (#4787); Non-destructive Cursor (#5340); Data Set Adapter (#9013); 2260 Display Station Model 1 with Alphameric Keyboard (#4766) - [See note below].

2701 Data Adapter Unit* with IBM Terminal Adapter Type 1 (#4645) for 1050, 2740; IBM Terminal Adapter Type III (#4657) for 2260 - [See note below].

2702 Transmission Control* with IBM Terminal Control Type 1 (#4615) with appropriate selective speed feature; Terminal Control Base (#9696) [See note below].

2703 Transmission Control* with Start-Stop Base Type 1 (#7505); IBM Terminal Control Base (#4619); IBM Terminal Control Type 1 (#4696); Line Speed Option

134.5 bytes (#4878) - [See note below].

2040 Processing Unit with Selector Channel-First (#6980); Storage Protection (#7520); Decimal Arithmetic (#3237).

*The user may choose the 2701, the 2702, or the 2703 to meet his minimum configuration requirement.

Note: Line adapter and/or data sets must be added as required to satisfy the user's communications control unit and communications line facilities.

Core storage requirements are described in the Application Description Manual (H20-0524). Minimum system requirements are 128K bytes for batch-only PCP operation, and 256K bytes for teleprocessing with MFT. In the latter case, the system for all practical purposes would be dedicated to on-line IMS/360.

Typical IMS/360 Configuration: A System/360 Processing Unit Model I (512K) with Multiplexor Channel ... three Selector Channels ... two tape controls ... ten 9-track Magnetic Tape Units ... two 2314 Direct Access Storage Facilities ... 1052 Expansion (#7955) and the features listed under Minimum Machine Configurations ... ten 1050 Data Communications Systems with the features listed under Minimum Machine Configurations ... fifty-two 2740 Communication Terminals with the features listed under Minimum Machine Configuration ... 2821 Control Unit Model 5 ... 2540 Card Read Punch ... two 1403 Printers Model N1.

Note: The maximum number of input/output devices, including communication lines, which may be attached to the system is in accord with capabilities of OS/360.

Basic Program Product Offering:

Unlicensed Documentation: One copy each of Program Description Manual (H20-0634), Operations Manual (Volume 1 Systems Operation H20-0635 and Volume II, Machine Operations H20-0636).

Licensed Machine Readable Material: One copy of Machine Readable Materials containing the Macro-Instruction Library and Load Module Library required to install IMS/360.

	Specify Number	Track/Density	Description	Quantity
Order from IBM	9126	7DC/800	2400'MT	1 reel
	9128	9/800	2400'MT	1 reel
	9129	9/1600	2400'MT	1 reel

Ordering:

Type	Program Number	DPMO	Programming Service Classification
5736	CX3	CX3	B

Special Features:

Modification Support Package

Licensed Documentation: One copy of each volume of the System Manual - Volume I - PLM - Feature #8801; Volume II, Flowcharts, Feature #8802; Volume III, Microfiche for Program Listings - Feature #8803.

Licensed Machine Readable Material: One copy of Machine Readable Materials containing the IMS/360 Source Module Library.

	Feature Number	Track/Density	Description	Quantity
Order from IBM	7013	7DC/800	2400'MT	1 reel
	7014	9/800	2400'MT	1 reel
	7015	9/1600	2400'MT	1 reel

There will be no additional charge for the Modification Support Package.

Additional Documentation:

Licensed Documentation: (available to licensees from PID, order by feature code)

Feature Numbers: 8801 (Y20-0431*)
                   8802 (Y20-0432*)
                   8803 (Y20-0433*)

*Order by form number from Mechanicsburg for IBM Internal Use Only.

Selling Price for Unlicensed Documentation: (order from Mechanicsburg, bill customer; reference DP Letter No. 69-273)

	Selling Price/Copy
Program Description Manual (H20-0634)	$ 6.50
Systems Operation (H20-0635)	8.50
Machine Operations (H20-0636)	4.00

Related Program Product Documentation: (available only from Mechanicsburg ... no charge)

Application Description Manual (H20-0524) with TNL (N20-2012)
IBM S/360 System Summary (A22-6810)
IBM OS/360 Concepts and Facilities (C28-6535)

For further information contact Industry Marketing, Manufacturing, WTHQ, New York.