IBM 4300 Series

New Product Announcement

IBM has significantly extended the capabilities of its 4341 Processor by introducing the more powerful 4341 Model Group 2 and announcing the availability to 4341 users of the large-scale MVS operating system, the high-performance 3380 Direct Access Storage, and the new 3279 Color Display Console.

4341 MODEL GROUP 2: On September 15, 1980, IBM extended the processing power of its 4300 Series computers by unveiling the 4341 Model Group 2 Processor. The new processor features a 50 to 80 percent performance increase and up to twice the memory capacity of the original 4341, which is now designated the 4341 Model Group 1.

Distinguishing characteristics of the 4341 Model Group 2 include two, four, or eight megabytes of main memory (compared to two or four megabytes for the 4341-1); 16,384 bytes of high-speed buffer storage (compared to 8,192 bytes for the 4341-1); a processor cycle time of 120 to 240 nanoseconds (compared to 150 to 300 nanoseconds for the 4341-1); a standard complement of six I/O channels (compared to three standard and three optional chanels on the 4341-1); and an optional ECPS Expansion feature (not available on the 4341-1) that allows concurrent operation of ECPS:MVS and ECPS:VM/370.

IBM states that the internal performance of the 4341 Model Group 2 "has been measured to be in the range of 1.5 to 1.8 times faster than an equivalently configured 4341 Model Group 1 Processor when running selected DOS/VSE, VS1, MVS/SP, and VM/370 jobs." A purchased 4341-1 can be field-upgraded to a 4341-2 with the same memory capacity at a cost of $110,800 if the 4341-1 includes the three optional channels (feature #1870), or $127,750 if it does not.

A two-megabyte 4341 Model Group 2 Processor can be purchased for $385,000, rented for $11,868 per month, or leased on a 2-year term for $10,100 per month. Initial customer deliveries of the 4341-2, including all models and features, are scheduled for the second quarter of 1981.

The 4341-2 is program-compatible with the 4341-1 and offers the same operating modes and programming support. Users can choose to operate in ECPS:VSE mode under DOS/VSE, or in System/370 mode under DOS/VS1 Release 7, MVS/SP-JES2 or -JES3, VM/370 Release 6, or the ACP/TPF program product. The optional ECPS Expansion feature, according to IBM, will greatly increase the 4341-2's performance in environments that use MVS/SP in conjunction with VM/370 by permitting concurrent operation of ECPS:VM/370 and ECPS:MVS.

The 4341 Model Group 2 should equal or surpass the performance of the IBM 3031 Processor at roughly one-half the price. Thus, the 4341-2 effectively obsoletes the earlier system, and a sizeable reduction in the 3031's purchase price has been widely predicted.

ENHANCED CHANNEL CAPABILITIES: IBM has enhanced the block multiplexer channel capabilities of the 4341 Processors in order to accommodate the 3-megabytes-per-second data transfer rate of the 3380 Direct Access Storage. On both the 4341-1 and 4341-2, block multiplexer channels 1 and 2 can operate in Data Streaming Mode at a maximum block data transfer rate of 3 megabytes per second, while block multiplexer channels 3 and 4 can operate at a maximum of 2 megabytes per second. For block multiplexer channel 5, the maximum data transfer rate is 1 megabyte per second on the 4341-1 and 2 megabytes per second on the 4341-2. The maximum aggregate block data transfer rate is 11 megabytes per second for the 4341-1 and 12 megabytes per second for the 4341-2. The Data Streaming Mode is available on any 4341 block multiplexer channel at data transfer rates up to the maximum rates specified above.

The enhanced channel capabilities will be included on all 4341 systems shipped from Endicott beginning in March 1981, and will be available as an engineering change for field installation on 4341 Model Group 1 Processors beginning in the second quarter of 1981. The Data Streaming Mode presents no additional programming considerations and will not affect currently supported peripheral devices or control units.

IBM 3380 DIRECT ACCESS STORAGE: The 3380, which IBM introduced in June 1980 and made available to 4341 users three months later, offers a significantly larger storage capacity, faster data transfer rate, and lower cost per byte than any previous IBM disk drive. Each 3380 drive unit has a data storage capacity of 2.52 billion bytes, an average seek time of 16

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milliseconds, an average rotational delay of 8.3 milliseconds, and a data transfer rate of 3.0 megabytes per second. Each 3380 unit contains two 1.26-billion-byte head and disk assemblies (HDA's), which are permanently mounted and house the heads, disks, and access mechanisms in a sealed enclosure. Each HDA, in turn, has two actuators, and each actuator accesses 630 megabytes of data. A 3380 string can consist of up to 4 drive units and 16 actuators, with each actuator operating independently and overlapping its seeking and rotational position sensing operations with those of other actuators.

There are six models of 3380 Direct Access Storage, all with the same 2.52-gigabyte storage capacity. On three of the models (A4F, AAF, and B4F), 5.6 megabytes of moving-head storage are replaced with an equivalent amount of fixed-head storage with zero seek time. Four models (A4, A4F, AA4, and AAF) include string control functions and can be connected to a 3880 Model 2 or 3 Storage Control, while two models (B4 and B4F) can be connected to any 3380 Model A unit. Two models (AA4 and AAF) provide controls for attachment to two 3880 storage directors; this arrangement permits concurrent data transfer operations by two actuators not sharing an internal data path and provides increased system reliability.

The 3380 can be used with a 4341 Model Group 1 or 2, with any 303X Series processor, or with a System/370 Model 158, 158-3, 168, or 168-3. One of two new models of the 3880 Storage Control, Model 2 or Model 3, is a prerequisite. Up to two 4-unit strings of 3380 drives can be connected to one of the two storage directors on the 3880 Model 2, and to both storage directors on the 3880 Model 3. When attached to block multiplexer channel 1 or 2 of a 4341 Model Group 1 or 2 Processor, the 3380/3880 subsystem can utilize the Data Streaming Mode and transfer data at its full rated speed of 3 megabytes per second. The 3380/3880 subsystem can also be attached to block multiplexer channel 3 or 4 (or 5 on the Model Group 2 only) provided the 3880 is equipped with the #6550 Speed Matching Buffer for 3380; in this case, the data transfer rate is limited to 1.5 megabytes per second.

First customer shipments of both the 3380 and the new models of the 3880 Storage Control are scheduled for the first quarter of 1981. Programming support for the 3380 on the 4341 Processors will be provided under MVS/SP and ACP/TPF.

IBM 3279 COLOR DISPLAY CONSOLE, MODEL 2: This four-color CRT display unit can now be used as an operator's console on the 4341 Processor (Model Group 1 or 2), providing an attractive alternative to the monochrome 3278 Model 2A Display Console. The 3279 Model 2 displays up to 1920 characters in 24 lines of 80 characters each. Rows 1 through 20 are usable by the operator, and the last 4 rows are used for system status information. A 96-character set is used, and each character is displayed in a 9-by-12 dot matrix. Console messages are displayed in four colors (red, white, blue, or green) depending upon the status of their protected and intensified attributes, thereby giving the operator a clearer picture of the system's status.

The 3279 Model 2 can be connected to an available console position on any 4341 Processor. The unit must be equipped with one of three available 75-key keyboards, and if the 3279 Model 2 is used as the primary console, the keyboard must include an operator control panel. The 3287 Printers, Models 1C and 2C, which are capable of printing in four colors at 80 and 120 characters per second, respectively, by means of a multi-color ribbon, are also available for use as hard-copy console output units. A total of up to four 3278 Model 2A Display Consoles, 3279 Model 2 Color Display Consoles, and/or 3287 Model 1, 2, 1C, or 2C Printers can be connected to a 4341 Processor. Programming support for the 3279 Model 2C and the 3287 Models 1C and 2C is the same as the current support for the 3287 Model 2A Display Console and the 3287 Model 1 and 2 Printers. Initial customer shipments of the 3279 Model 2C are scheduled for the second quarter of 1981.

MVS SUPPORT FOR 4341: On July 22, 1980, IBM announced the availability of support for its large-scale MVS operating system on the 4341 Processor. This move will enable users of larger IBM computers to standardize on a single operating system as they install 4341 Processors to serve as distributed systems or to provide added capacity at the central site. In addition, 4341 users with rapidly growing workloads will be able to achieve greater productivity by moving up to the powerful MVS system.

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A no-charge option, ECPS:MVS, provides new privileged instructions that enable the 4341 Processor to utilize either of the two recently announced MVS/System Products, MVS/SP-JES2 or MVS/SP-JES3. MVS Release 3.8 with Processor Support 2 provides the required basic SCP code. MVS/SP-JES2 and MVS/SP-JES3 are separately priced products that provide major extensions and enhancements to the MVS Base Control Program plus JES2 and JES3, respectively. IBM has stated that the MVS/System Products will replace the earlier MVS/System Extensions product and serve as the base for future enhancements to MVS, JES2, and JES3.

RMF (Resource Measurement Facility) support for the 4341 is provided by RMF Version 2 Release 3. The ECPS:MVS option, Release 1 of the MVS/System Products, and Release 3 of RMF Version 2 all became available in August 1980. The ECPS:MVS, ECPS:MV/370, and ECPS:VS1 options on the 4341 are mutually exclusive—except that a 4341 Model Group 2 equipped with the ECPS Expansion feature can operate concurrently in ECPS:MVS and ECPS:VM/370 modes.□

EQUIPMENT PRICES

		Purchase Price	Monthly Maint.	Monthly Rental Charge*	Monthly Lease Charge (2-Year Lease)*
4341 K1	Processor with 2 megabytes of main memory	$257,250	$547.00	$7,878	$6,705
4341 L1	Processor with 4 megabytes of main memory	288,650	594.00	8,865	7,545
4341 K2	Processor with 2 megabytes of main memory	385,000	800.00	11,868	10,100
4341 L2	Processor with 4 megabytes of main memory	416,400	847.00	12,855	10,940
4341 M2	Processor with 8 megabytes of main memory	479,200	941.00	14,829	12,620
1601	ECPS Expansion Feature (for 4341 Model Group 2 Processors only)	25,000	20.00	793	675
1850	Channel-to-Channel Adapter (for all 4341 Processors)	22,050	26.50	691	588
1870	Block Multiplexer Channels, Additional (group of three channels, for 4341 Model Group 1 Processors only)	16,950	5.50	532	453
1890	Channel Control Unit Positions, Additional (for all 4341 Processors)	2,625	9.00	82	70
3279 2C	Color Display Console	4,355	39.50	150	128
4631	75-Key Operator Console Keyboard with Channel to Channel	1,160	7.00	36	31
4632	75-Key Operator Console Keyboard without Channel to Channel	1,080	7.00	35	30
4633	75-Key Operator Console Keyboard without operator control panel	560	6.50	16	14
6340	Security Keylock	35	—	—	—
3287 1C	Printer; 4 colors; 80 cps	6,430	55.50	230	196
3287 2C	Printer; 4 colors, 120 cps	6,825	67.00	271	231
3380	Direct Access Storage; 2.52 billion bytes per unit:				
	Model A4; connects to one 3880 storage director	97,650	285.00	2,550	2,170
	Model A4F; connects to one 3880 storage director; includes 5.6 megabytes of fixed-head storage	128,250	415.00	3,349	2,850
	Model AA4; connects to one 3880 storage director	111,600	325.00	2,914	2,480
	Model AAF; connects to two 3880 storage directors; includes 5.6 megabytes of fixed-head storage	142,200	455.00	3,713	3,160
	Model B4; connects to a Model A unit	81,000	240.00	2,115	1,800
	Model B4F; connects to a Model A unit; includes 5.6 megabytes of fixed-head storage	111,600	370.00	2,914	2,480
3880	Storage Control:				
	Model 2; provides one storage director for 3330/3333, 3340/3344, 3350, 3370, and/or 3375 storage and one for 3380 storage	68,730	176.00	1,909	1,625
	Model 3; provides two storage directors for 3380 storage	68,730	176.00	1,909	1,625
6150	Remote Switch Attachment for Eight-Channel Switch	NC	NC	NC	NC
6550	Speed Matching Buffer for 3380	9,975	40.00	277	236
8172	Eight-Channel Switch	26,070	53.50	724	616

*Rental/lease prices include equipment maintenance.

CHARGES FOR LOCAL PROGRAMMING SUPPORT	Monthly Program Support Charge	Monthly Additional Program Support Charge
For Class 1 SCP on 4341 Model Group 2:		
Category A (DOS/VSE, OS/VS1 Release 7, or VM/370 Release 6)	$740	$444
Category B (MVS corequisite SCP)	790	474