

1401 PROCESSING UNIT [No longer available]

Models: Choice depends upon core storage capacity and I/O configuration desired ... see "Prices" below.

Model Changes: Model changes can be made within groups 1 thru 3, 11 thru 13, 4 thru 6, 14 thru 16, or 24 thru 26 having the same alphabetic prefix.

Except for G or H models, a 1401 from group 1 thru 3, 11 thru 13, can be changed to group 4 thru 6, 14 thru 16, or 24 thru 26 while adding a 1406, if the 1401 is serial no. 20000 or above.

A model G11 thru G13 may be changed to a G1 thru G3, or vice versa.

Note: When a mdl G1 thru G3 is changed to a G11 thru G13, a 1403 mdl 6 must physically replace a 1403 mdl 4 or 5 ... when a G11 thru G13 includes a 1402 mdl 5, the 1402 must be field changed to a mdl 4 when converting to a 1401 mdl G1 thru G3.

If the 1401 is serial no. 20263 or above, an F23 thru F26 can be changed to an F13 thru F16, or a model B to a C, or vice versa, or an E to a C, or an F3 thru F6 to an F13 thru F16, or vice versa.

Note: When changing an installed E to C, specify which of the following features are installed -- Expanded Print Edit (#3835), Print Control, Add'l (#5540),

Read Punch Release (#6040), Sense Switches (#7600). If not installed, they will be included in the model conversion. Also specify which model of the 1403 Printer is installed, and whether the 729 tape units to be installed are mdl 2 and/or 5, or model 4. A 1401 mdl C system requires a 1403 mdl 2. An installed 1403 mdl 1 must be converted to a mdl 2.

•The following specifications can be changed in the field.

- [1] Voltage (AC, 3-phase, 4-wire, 60 cycle): #9903 for 208 V, or #9905 for 230 V ... must be consistent with system voltage.
- [2] Color: Color Accent -- #9041 for red, #9042 for yellow, #9043 for blue, or #9045 for gray. Extended Color -- #9031 for red, #9032 for yellow, or #9033 for blue.

Prices:

	Model	Rental (MAC)	Purchase	MMMC	
Basic Card System	1,400 storage positions	G1†	\$ 975	\$ 57,290	\$ 62.00
	2,000 storage positions	G2†	1,080	58,130	62.00
	4,000 storage positions	G3†	1,205	61,450	63.50
	1,400 storage positions	G11†	863	56,880	57.00
	2,000 storage positions	G12†	964	57,710	57.00
	4,000 storage positions	G13†	1,100	61,040	58.00
Card System	1,400 storage positions	A1†	1,225	86,100	57.50
	2,000 storage positions	A2†	1,330	86,930	57.50
	4,000 storage positions	A3†	1,465	90,160	59.50
	8,000 system storage positions with 1406 mdl 1	A4†	1,515	82,340	62.00
	12,000 system storage positions with 1406 mdl 2	A5†	1,535	92,760	63.50
	16,000 system storage positions with 1406 mdl 3	A6†	1,535	92,760	63.50
Expanded Card System	1,400 storage positions	B1†	1,380	96,290	63.50
	2,000 storage positions	B2†	1,485	97,130	63.50
	4,000 storage positions	B3†	1,620	100,300	64.50
	8,000 system storage positions with 1406 mdl 1	B4†	1,670	102,500	66.50
	12,000 system storage positions with 1406 mdl 2	B5†	1,690	102,900	68.00
	16,000 system storage positions with 1406 mdl 3	B6†	1,690	102,900	68.00
729 Tape/Card System	1,400 storage positions	C1†	2,510	129,950	96.00
	2,000 storage positions	C2†	2,615	131,000	96.00
	4,000 storage positions	C3†	2,750	134,100	98.50
	8,000 system storage positions with 1406 mdl 1	C4†	2,805	136,200	101.00
	12,000 system storage positions with 1406 mdl 2	C5†	2,825	137,250	102.00
	16,000 system storage positions with 1406 mdl 3	C6†	2,825	137,250	102.00
729 Tape-oriented System	1,400 storage positions	D1†	2,480	128,900	86.00
	2,000 storage positions	D2†	2,585	129,950	86.00
	4,000 storage positions	D3†	2,720	133,050	87.00
	8,000 system storage positions with 1406 mdl 1	D4†	2,770	135,150	90.00
	12,000 system storage positions with 1406 mdl 2	D5†	2,805	136,200	91.00
	16,000 system storage positions with 1406 mdl 3	D6†	2,805	136,200	91.00
7330 Tape-oriented System	1,400 storage positions	D11†	1,995	128,900	83.00
	2,000 storage positions	D12†	2,095	129,950	83.00
	4,000 storage positions	D13†	2,230	133,050	86.00
	8,000 system storage positions with 1406 mdl 1	D14†	2,285	135,150	87.00
	12,000 system storage positions with 1406 mdl 2	D15†	2,305	136,200	89.00
	16,000 system storage positions with 1406 mdl 3	D16†	2,305	136,200	89.00
7330 Tape/Card System	1,400 storage positions	E1†	1,900	125,800	84.50
	2,000 storage positions	E2†	1,995	125,800	84.50
	4,000 storage positions	E3†	2,140	129,950	86.00
	8,000 system storage positions with 1406 mdl 1	E4†	2,180	132,150	88.00
	12,000 system storage positions with 1406 mdl 2	E5†	2,210	132,550	90.00
	16,000 system storage positions with 1406 mdl 3	E6†	2,210	132,550	90.00
1405/Card System	4,000 storage positions	F3†	1,650	101,650	66.50
	8,000 system storage positions with 1406 mdl 1	F4†	1,700	103,950	69.00
	12,000 system storage positions with 1406 mdl 2	F5†	1,720	104,350	70.50
	16,000 system storage positions with 1406 mdl 3	F6†	1,720	104,350	70.50
1405/729 Tape/Card System	4,000 storage positions	F13†	2,660	131,000	91.00
	8,000 system storage positions with 1406 mdl 1	F14†	2,710	133,600	94.00
	12,000 system storage positions with 1406 mdl 2	F15†	2,730	134,000	95.00
	16,000 system storage positions with 1406 mdl 3	F16†	2,730	134,000	95.00
1405/7730 Tape/Card System	4,000 storage positions	F23†	2,160	131,000	88.00
	8,000 system storage positions with 1406 mdl 1	F24†	2,210	133,600	90.00
	12,000 system storage positions with 1406 mdl 2	F25†	2,240	134,000	93.00
	16,000 system storage positions with 1406 mdl 3	F26†	2,240	134,000	93.00

Rental Plan: "A" (30%) Purchase Option: 45% Maintenance: B Per Call: 3 Metering: Base Unit (meters 1406) Warranty: C

† No longer available.

1401 Processing Unit (cont'd)

SPECIAL FEATURES

The following special features are on an "as available" basis for field installation.

•For General Use

ADVANCED PROGRAMMING (#1060). [B, C, D, E, F mds only] Includes the following instructions: Indexing -- three index locations are provided to modify addresses automatically ... Store A-Address Register - Q(AAA) -- stores contents of "A" address register in (AAA) prior to reading this instruction ... Store B-Address Register -H(AAA) -- stores contents of "B" address register in (AAA) prior to reading this instruction ... Move Record -- a special "Move" instruction for moving a complete record from one storage area to another without regard to word marks within the record. For details see SRL Reference Manual.

BIT TEST (#1470). [B, C, D, E, F, G mds only] To test any position in storage for any bit. Limitation: Since the function provided by this feature is part of Column Binary (#1990), it is not required and cannot be installed if #1990 is installed. Note: This feature is required to attach a 7641 Hypertape Control if #1990 is not installed.

HIGH-LOW-EQUAL COMPARE (#4575). [B, C, D, E, F, G mds only] Indicators can be tested for a high, low or equal condition after a "Compare" instruction has been executed ... applies to alphabetic as well as numeric data.

MULTIPLY-DIVIDE (#5275). [B, C, E, F mds only] Provides the following:
Multiply -- an area of core storage must be set aside equal in length to the combined lengths of the multiplier and multiplicand, plus one. This area, or "B" field, is used to hold the multiplier in the high-order positions and develop the product in the low-order positions. The multiplicand is placed in the "A" field. After the multiplier has been moved to the high-order positions of the "B" field, the multiply operation is executed. Upon completion of the operation, the product is available beginning with the units position of the "B" field. Speed depends upon the size of multiplier and multiplicand; e.g., a 6-position field multiplied by a 4-position field requires only 1.96 milliseconds. Divide -- a field in which the quotient will be developed is set aside immediately to the left of the dividend field. The divisor can be any other place in core storage. After the "Divide" instruction is executed, the quotient is available beginning with the units position of the field set aside for it; the remainder beginning with the units position of the dividend field. Speed depends upon the size of the expected quotient.

PROCESSING OVERLAP (#5730). [B, C, D, E, F mds only] Allows the system to compute while input/output is in process. Computing continues while the I/O unit prepares to send or receive data, and between character transfers. When the transfer begins, computing is interrupted to receive a character when signalled by the I/O unit. Limitation: Can be field installed only on 1401s serial no. 26410 or above.

Notes: [1] For most efficient system operation involving card operations, installation of Early Card Read (#3550) on the 1402 in conjunction with this feature is recommended ... [2] This feature is recommended for optimum operation of a 1419 Magnetic Character Reader ... [3] This feature is not effective with a 1009 Data Transmission Unit, 1012 Tape Punch, 1412 Magnetic Character Reader, 1418 Optical Character Reader, or 1428 Alphameric Optical Reader.

SENSE SWITCHES (#7600). [A, B, E, F, G, H mds only ... standard on C, D mds] A group of six sense switches which provide manual control of a stored program and give six additional conditions the "Branch" instruction can test ... the "d" modifier of the instruction specifies which switch is to be tested. Maximum: One group.

•For Card and Tape Systems

COLUMN BINARY (#1990). [B, C, E, F mds only] To convert binary cards to magnetic tape, and vice versa ... cards with multiple significant digit punching in a single column can also be processed. This feature is required to attach a 7641 Hypertape Control, if Bit Test (#1470) is not installed. Limitations: When reading such characters, the validity check is inhibited because all characters are considered valid ... since this feature includes the function provided by Bit Test (#1470), it is not required and cannot be installed if #1470 is installed.

•For 1402 Card Read Punch

PUNCH FEED READ CONTROL (#5895). [A, B, C, E, F, G, H mds only] Required for Punch Feed Read (#5890) on a 1402 mdl 1, 4, 5 or 6. Limitation: For field installation, 1401 must be serial no. 20000 or above.

READ PUNCH RELEASE (#6040). [A, B, E, F, G, H mds only ... standard on C mds] The Read Release and Punch Release instructions are installed as one feature and operate as follows: Read Release -- operation code "8" causes the card reader to start the next cycle and allows processing to continue. A "Read" instruction must then be given prior to the time the reader is ready to read the "9" row of the card ... allows a gain of 21 milliseconds for processing time between successive card feed cycles. Punch Release -- operation code "9" causes the card punch to start the next cycle and allows processing to continue. A "Punch" instruction must be given prior to the time the 1401 must read data to the punch for punching the "12" row of the card ... allows a gain of 37 milliseconds of processing time between successive punch cycles.

•For Printers

EXPANDED PRINT EDIT (#3835). [A, B, E, F, G, H mds only ... standard on C and D mds] Expands print edit as follows: Asterisk Protection -- printing of high-order zeros replaced with asterisks until a significant digit is sensed. Floating Dollar -- printing of all high-order zeros is suppressed and a dollar sign prints immediately to the left of the first high-order significant digit. Decimal Control -- when a decimal point is sensed, suppression of zeros is stopped unless a significant digit is not sensed in any of the positions to the right of the decimal point, in which case all zeros and the decimal point are suppressed. Sign Control Left -- a "CR" or "-" character is printed in the high-order position of the control word if the edited word is negative.

NUMERICAL PRINT CONTROL (#5380). [B, C, D, E, F mds only] Required for Numerical Print Feature (#5381) on a 1403 mdl 1 or 2. Limitation: Can be field installed only on 1401s serial no. 20000 or above.

PRINT CONTROL (#5539). [B, E, F mds only ... standard on C mds] Required to control the 32 additional print positions of a 1404 Printer.

PRINT CONTROL, ADD'L (#5540). [A, B, E, F, G1, G2, G3 mds only ... standard on C and D mds] Required to control the 32 additional print positions of a 1403 Printer mdl 2 or 5.

PRINTER (1404) ADAPTER (#5563). [B, C, E, F mds only] To attach a 1404 Printer. Limitation: Can be field installed on 1401s serial no. 26410 or above only.

PRINT STORAGE (#5585). [B, C, D, E, F mds only] Provides additional storage to print a line from the main storage print area with the "Print" instruction. Upon completion of the transfer, normal program execution is resumed while the printer prints a line from print storage, increasing available process time by the 84 milliseconds normally interlocked by a print operation. Reduces job time on combination I/O operations involving printing. Two additional instructions, "Branch on Carriage Busy" and "Branch on Printer Busy," are provided to interrogate the status of carriage and printer and to allow maximum utilization of the additional processing time.

READ-COMPARE ADAPTER (#5991). [B, C, E, F mds only] Required for Read-Compare (#5990) on a 1404. Limitation: Can be field installed only on 1401s serial no. 26410 or above.

SELECTIVE TAPE LISTING CONTROL (#6412). [B, C, E, F mds only] Required for Selective Tape Listing Feature (#6411) on a 1403 mdl 1 or 2. Limitations: Can be installed only on 1401s serial no. 20000 or above ... cannot be installed on a 1401 ordered for future installation of a 1404 Printer.

SPACE SUPPRESSION (#7246). [For any model] Provides 1403 or 1404 space suppression under program control.

1401 Processing Unit (cont'd)

● For Tape Systems

COMPRESSED TAPE (#2210). [C, D, E, F (except F3-F6) mdl's only]
Two additional instructions permit the 1401 to read a tape record written with zero elimination by a 7070/7074 system and to expand it within core storage for processing. Prerequisite: Advanced Programming (#1060).

800 CPI FEATURE (#3580). [C1-C6, D1-D6, F13-F16 mdl's only]
To operate 729 V Magnetic Tape Units at 800 cpi density ... see Tape Densities Option Switch under 729 II/IV/V/VI.

TAPE INTERMIX (#7804, 7805). [C1-C6, D1-D6, F13-F16 mdl's only]
#7804 -- to mix 729 IVs with 729 IIs or VIs ... #7805 -- to mix 729 II or Vs with 729 IVs. Limitation: Can be installed only on 1401s serial no. 20263 or above.

Prerequisite: To operate 729 Vs at 800 cpi in any of these combinations, an 800 CPI Feature (#3850) is also required.

● For 1311 Disk Storage Drives

DISK STORAGE DRIVE ADAPTER (#3339). [B, C, E mdl's only] Required for the attached 1311 mdl 4 ... also permits attachment of up to four additional 1311 mdl 2s.

● For Serial I/O Units

SERIAL I/O ADAPTER (#7080). [B, C, D, E, F, G mdl's only] To attach a 1012 Tape Punch, 1231 Optical Mark Page Reader, 1419 Magnetic Character Reader, or Direct Data Channel (#3271) to the system. One adapter can be used for all these attachments, but only one attachment can be made at a time. Limitation: Only a 1012 or a 1231 can be attached to 1401 G mdl's. Prerequisites: Diagnostic programs require the following minimum storage positions: For 1012 -- 2,000 ... for 1231 -- 4,000.

● For Direct Inter-system Data Transfer

DIRECT DATA CHANNEL (#3271). [B, C, D, E, F mdl's only] Permits two 1401s, or a 1401 and a 1441 (1440 or 1460) to transfer data between systems. Data is transferred via a cable connected to a Serial I/O Adapter (#7080) on each system. The cable can be manually attached or detached. When attached, no other attachment can be made to #7080. Only one #3271 is required to connect the two systems ... it may be ordered for either system, but Emergency Power-Off (#9144) must be ordered for the other system. Specify: Length of cable, to a maximum of 100 feet ... also indicate system to which the 1401 will be attached and whether it is installed or on order. Prerequisites: Advanced Programming (#1060) and Serial I/O Adapter (#7080).

Special Feature Prices:	Feature	MAC	Purchase	MMMC	FIC
● For General Use					
Advanced Programming	#1060	\$108	\$ 4,040	\$ 1.00	\$592
Bit Test	1470	20	848	.50	6
High-Low-Equal Compare	4575	76	2,865	1.75	269
Multiply-Divide	5275	333	11,950	10.00	674
Processing Overlap	5730	255	15,380	17.50	839
Sense Switches	7600	15	582	.50	29
● For Card and Tape Systems					
Column Binary	1990	101	3,685	2.50	377
● For 1402 Card Read Punch					
Punch Feed Read Control	5895	56	2,095	1.75	363
Read-Punch Release	6040	25	1,005	.50	22
● For Printers					
Expanded Print Edit	3835	20	795	.50	29
Numerical Print Control	5380	50	2,045	.75	
Print Control	5539	61	2,510	.75	71
Print Control, Add'l	5540	61	2,510	.75	71
Printer (1404) Adapter	5563	25	1,410	1.25	
Print Storage	5585	386	12,890	28.50	578
Read-Compare Adapter	5991	76	4,365	1.25	
Selective Tape Listing Cntrl	6412	86	4,415	NC	166
Space Suppression	7246	78SUC	63	NC	29
● For Tape Systems					
Compressed Tape	2210	35	1,330	3.50	52
800 CPI Feature	3580	35	1,620	NC	106
Tape Intermix					
to add 729 IVs to II/Vs	7804	NC	NC	NC	NC
to add 729 II/Vs to IVs	7805	NC	NC	NC	NC
● For 1311 Disk Storage Drives					
Disk Storage Drive Adapter	3339	101	4,925	5.00	335
● For Serial I/O Units					
Serial I/O Adapter	7080	101	3,845	1.50	299
● For Direct Inter-system Data Transfer					
Direct Data Channel	3271	NC	NC	NC	NC

1402 CARD READ PUNCH [No longer available]

Model 4 For a 1401 mdl G1, G2, G3, G11, G12 or G13

Model 5 For a 1401 mdl G11, G12 or G13

Model Changes: Model 5 can be changed in the field to model 4, or vice versa.

● The following specifications can be changed in the field:

[1] Voltage (AC, 3-phase, 4-wire, 60 cycle): #9903 for 208 V, or #9905 for 230 V ... must be consistent with system voltage.

[2] Color: Color Accent -- #9043 for blue, or, if other system units are to have red, yellow or gray accents, #9044 for charcoal. Extended Color -- #9031 for red, #9032 for yellow, or #9033 for blue.

[3] Numerical Print Feature: #5381. For 1401 system only. Required if Numerical Print Feature (#5381) is installed on a 1403 Printer.

Prices:	Mdl	Rental (MAC)	Purchase	MMMC
	4††	\$ 437	\$30,520	\$129
	5††	415	29,420	126

Rental Plan: "A" (30%) Purchase Option: 45% Maintenance: C
Metering: I/O Unit (On-line) Warranty: C Per Call: 3

● SPECIAL FEATURES ... the following features, as appropriate, are on an "as available basis for field installation.

EARLY CARD READ (#3550). [Mdl 1 only ... standard on mdl's 4, 5 and 6 ... not available on mdl 2] To allow the 1402 to

maintain high card reading speed during lengthy processing routines. In such routines, the card reading mechanism can engage sooner, reducing time between reading of cards ... see appropriate Reference Manual for details.

PUNCH FEED READ (#5890). [Mdl's 1, 4, 5 and 6 only ... not available on mdl 2] For punching output data into the same card from which input data was read. Adds a special set of 80 reading brushes one station ahead of punch station. Limitation: Refer to SRL GA24-3074 for limitations on use of prepunched cards. Prerequisite: Punch Feed Read Control (#5895) on 1401.

Special Feature Prices:	Feature	MAC	Purchase	MMMC	FIC
Early Card Read	#3550	\$10	\$ 241	NC	\$161
Punch Feed Read	5890	28	1,045	\$ 4	52

†† No longer available.