



# 2100A COMPUTER

## Price Information

EFFECTIVE 1/12/73

Central Processor and Input/Output Options



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# 2100A COMPUTER

	LIST PRICE \$A	MONTHLY MAINTENANCE \$A
<b>2100A COMPUTER*</b> . . . . .	3,092	47.20

Without memory modules. Includes programmer's console, extended arithmetic instructions, memory parity check with interrupt, power fail interrupt with automatic restart, memory protect, 14 I/O locations. Operates on 115V 50-60 Hz supplies.

## PROCESSOR OPTIONS

-001 Control Console (replaces programmer's console) . . . . .	-	288	-8.00
-008 8K Memory . . . . .	4,120		11.20
-012 12K Memory . . . . .	6,180		16.80
-015 230V/50-60 Hz operation . . . . .	0		0
-016 16K Memory . . . . .	7,200		22.40
-024 24K Memory . . . . .	9,600		33.60
-032 32K Memory . . . . .	11,200		44.80
Multiplexed I/O . . . . . 12894A**	200		4.80
(Requires one I/O slot)			
Direct Memory Access for 2100A . . . . . 12895A	600		14.40
Operator's Panel for use with 2100A-001 . . . . . 12899A	660		8.00
Maintenance Accessory Kit for 2100A . . . . . 12900A	248		-

<b>2155A I/O EXTENDER**</b> . . . . .	3,172		21.60
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Operates on 115V/60Hz supplies. Extender provides power supplies and prewired slots for 31 additional I/O channels.

230 Volt/50Hz Operation . . . . . <sup>1</sup> Option 015 . . . . .	0		0
Direct Memory Access for 2155A . . . . . 12896A	412		14.40
(Requires 12895A installed in 2100A)			

## MICROPROCESSOR OPTIONS

Floating Point Hardware for 2100A . . . . . 12901A	400		3.20
Writeable Control Store for 2100A . . . . . 12908A/B	1,236		7.20
Prom Writer . . . . . 12909A	320		5.60

## ON-SITE EXPANSION OF MEMORY

Memory configuration after field expansion is identical to factory installation. Field installation must be performed by an HP Field Service Engineer. There is no additional charge for this requirement. Other possible memory expansions can be obtained by combining those shown. Resulting configurations are limited to 8K, 12K, 16K, 24K or 32K.

From	To	Model Number		
8K Words	12K Words	12884A-002	2,000	5.60
8K Words	16K Words	12885A-002	3,200	11.20
12K Words	16K Words	12885A	3,200 <sup>1</sup>	5.60
16K Words	24K Words	12885A-003	3,200	11.20
24K Words	32K Words	12885A-004	3,200	11.20

<sup>1</sup> Credit of \* will be issued if replaced 4K memory module is returned to HP in operable condition. \*\$1,600

\*2100A memory option must be specified.

\*\*System may include 12894A or 2155A but not both.

## 2100A INPUT/OUTPUT OPTIONS

In most instances, peripherals for the 2100A are listed under subsystem numbers and the price shown includes the entire subsystem. A subsystem consists of the peripheral, interface kit, I/O drivers, and diagnostics. Each interface requires one I/O slot, except as noted.

Several other peripheral devices are listed under model number, but the interface kit is included in the price of the peripheral as noted under the heading "Description".

To order an I/O option, use either the subsystem number or the model number, whichever is listed under "Equipment Supplied". Orders for I/O options subsequent to original purchase of system must state computer model, serial number, and operating system so that proper software can be furnished.

CAPABILITY	EQUIPMENT SUPPLIED		LIST PRICE \$A	MONTHLY MAINTENANCE \$A
	HP MODEL NUMBER 115V, 60 Hz	DESCRIPTION 230V, 50 Hz		
<b>TELEPRINTERS</b>				
A. Modified Teletype ASR-33. Typewriter and paper tape output. Keyboard and paper tape input, 10 characters/second. ASCII code. Friction-feed platen.	2752A	2752A-001	1,304	45.60
	12531C	12531C	280	3.20
B. Modified Teletype ASR-35. Similar to A except heavy duty with pin feed. Recommended where use exceeds 5 hr/day or 30 hr/week.	2754B	2754B-001	3,824	32.00
	12531C	12531C	280	3.20
<b>CRT/KEYBOARD</b>				
Keyboard entry; visual display of input/output 10 to 960 characters/second.	2615A	2615A-015	2,268	40.00
	12880A	12880A	280	3.20
		DUTY ON 2615A at 24.375%	358	0
<b>TERMINAL PRINTER</b>				
A. Console Printer with keyboard, pedestal, 75 columns/line, 30 cps, friction-feed	2762A	2762A-001	4,120	23.20
	12531D-001	(220V; 50 Hz) 12531D-001	324	3.20
B. Same as A		2762A-002	4,120	23.20
		(240V; 50 Hz) 12531D-001	324	3.20
C. Terminal Printer with keyboard, 118 columns/line, 30 cps, forms tractor with external paper handler, vertical tab/form feed, horizontal tab, pedestal.	2762A-006	2762A-007	5,024	23.20
	12531D-001	(220V; 50 Hz) 12531D-001	324	3.20
D. Same as C.		2762A-008	5,024	23.20
		(240V; 50 Hz) 12531D-001	324	3.20
E. Terminal Printer, receive only. 118 columns/line, 30 cps, forms tractor with external paper handler, vertical tab/form feed, horizontal tab, pedestal.	2762A-009	2762A-010	4,556	23.20
	12531D-001	(220V; 50 Hz) 12531D-001	324	3.20
F. Same as E		2762A-011	4,556	23.20
		(240V; 50 Hz) 12531D-001	324	3.20

CAPABILITY	EQUIPMENT SUPPLIED		DESCRIPTION	LIST	MONTHLY
	HP SUBSYSTEM NUMBER 115V; 60 Hz	230V; 50 Hz		PRICE \$A	MAINTENANCE \$A
<b>LINE PRINTER SUBSYSTEMS</b>					
A. 300 to 1100 lines/minute. 80 columns/line. 64 character set.	12984A	12984A-015	2767A Line Printer and Interface	10,424	58.40
B. 200 lines/minute; 132 columns/line, 64 character set.	12980A	12980A-015	2610A Line Printer and Interface	11,948	44.00
C. Same as B; 150 lines/minute, 96 character set.	12980A-001	12980A-016	2610A-001 Line Printer and Interface	13,628	44.00
D. 600 lines/minute; 132 columns/line, 64 character set.	12982A	12982A-015	2614A Line Printer and Interface	24,308	52.00
E. Same as D; 400 lines/minute, 96 character set.	12982A-001	12982A-016	2614A-001 Line Printer and Interface	26,368	52.00
<b>PUNCHED TAPE SUBSYSTEMS</b>					
A. Reads punched tape at 500 characters/second	12925A	<u>12925A-015</u>	2748B Tape Reader and Interface	<u>1,732</u>	16.00
B. Punches tape at 75 characters/second.	12926A	12926A	2895B Tape Punch and Interface	2,472	28.80
C. Punches tape at 120 characters/second.	12927A	12927A-015	2753B Tape Punch and Interface	3,712	24.80
<b>PUNCHED AND MARKED CARDS</b>					
A. Reads punched and marked cards. 300 cards/minute, automatic feed.	12986A	12986A-015	7261A Optical Mark Reader and Interface	2,904	24.80
			Encoder for Above	168	0
B. Reads punched cards. 600 cards/minute, automatic feed.	12985A	12985A-015	2892A Card Reader and Interface	4,532	39.20
<b>GRAPHIC PLOTTER SUBSYSTEM</b>					
A. Plots on 11 x 17 inch paper under direct computer control; up to 20 coordinates/sec. and up to 5 symbols/sec.	12935A	12935A-015	7210A Plotter and Interface	3,256	21.60
<b>7-TRACK NRZI MAGNETIC TAPE SUBSYSTEM</b>					
A. IBM compatible 7-track NRZI, read after write, 200/556/880 cpi, 45 ips, 115/230 volts switch selectable. (Specify core size to obtain proper software.)	12971A†	12971A†	7970B Magnetic Tape Sub-system (tape drive, controller interface, head cleaner, 2400 ft reel of tape, and operating system software)	9,608	74.40
B. Same as A; 37.5 ips	12971A-001†	12971A-001†	7970B Magnetic Tape Sub-system (tape drive, controller interface, head cleaner, 2400 ft reel of tape, and operating system software)	9,608	74.40
C. Same as A; 25 ips	12971A-002†	12971A-002†	7970B Magnetic Tape Sub-system (tape drive, controller interface, head cleaner, 2400 ft reel of tape, and operating system software)	9,608	74.40
D. Same as A (2nd, 3rd, or 4th drive)††	12971A-010†	12971A-010†	Additional 45 ips Tape Drive (tape drive, multi-unit cable, head cleaner, and 2400 ft reel of tape)	4,568	41.60
E. Same as B (2nd, 3rd, or 4th drive)††	12971A-011†	12971A-011†	Additional 37.5 ips Tape Drive (tape drive, multi-unit cable, head cleaner, and 2400 ft reel of tape)	4,568	41.60
F. Same as C (2nd, 3rd, or 4th drive)††	12971A-012†	12971A-012†	Additional 25 ips Tape Drive (tape drive, multi-unit cable, head cleaner, 2400 ft reel of tape)	4,568	41.60

ALL OEM

†Uses two I/O slots    ††Maximum of four tape drives on one controller interface.

CAPABILITY	EQUIPMENT SUPPLIED		DESCRIPTION	LIST PRICE \$A	MONTHLY MAINTENANCE \$A
	HP SUBSYSTEM NUMBER 115V; 60 Hz	230V; 50 Hz			
<b>9-TRACK NRZI MAGNETIC TAPE SUBSYSTEM</b>					
A. IBM compatible 9-track NRZI, read after write, 800 cpi, 45 ips, 115/230 volts switch selectable. (Specify core size to obtain proper software.)	12970A†	12970A†	7970B Magnetic Tape Subsystem (tape drive, controller interface, head cleaner, 2400 ft reel of tape, and operating system software)	7,120	49.60
B. Same as A; 37.5 ips	12970A-001†	12970A-001†	7970B Magnetic Tape Subsystem (tape drive, controller interface, head cleaner, 2400 ft reel of tape, and operating system software)	7,120	49.60
C. Same as A; 25 ips	12970A-002†	12970A-002†	7970B Magnetic Tape Subsystem (tape drive, controller interface, head cleaner, 2400 ft reel of tape, and operating system software)	7,120	49.60
D. Same as A (2nd, 3rd, or 4th drive)††	12970A-010†	12970A-010†	Additional 45 ips Tape Drive (tape drive, multi-unit cable, head cleaner, and 2400 ft reel of tape)	4,336	41.60
E. Same as B (2nd, 3rd, or 4th drive)††	12970A-011†	12970A-011†	Additional 37.5 ips Tape Drive (tape drive, multi-unit cable, head cleaner, and 2400 ft reel of tape)	4,336	41.60
F. Same as C (2nd, 3rd, or 4th drive)††	12970A-012†	12970A-012†	Additional 25 ips Tape Drive (tape drive, multi-unit cable, head cleaner, and 2400 ft reel of tape)	4,336	41.60
<b>9-TRACK PHASE-ENCODED MAGNETIC TAPE SUBSYSTEM</b>					
A. IBM compatible 9-track phase encoded, read after write, 1600 cpi, 45 ips, 115/230 volts switch selectable. (Specify core size to obtain proper software.)	12972A†	12972A†	7970E Magnetic Tape Subsystem (tape drive, master unit, controller interface, head cleaner, 2400 ft reel of tape, and operating system software)	9,920	80.00
B. Same as A; 37.5 ips	12972A-001†	12972A-001†	7970E Magnetic Tape Subsystem (tape drive master unit, controller interface, head cleaner and 2400 ft reel of tape and operating system software)	9,920	80.00
C. Same as A; 25 ips	12972A-002†	12972A-002†	7970E Magnetic Tape Subsystem (tape drive master unit, controller interface, head cleaner, 2400 ft reel of tape, and operating system software)	9,920	80.00
D. Same as A; 45 ips ††	12972A-005†	12972A-005†	Additional 45 ips Tape Drive master unit, multi-unit cable, head cleaner and 2400 ft reel of tape (deletes controller)	7,428	59.20
E. Same as B; 37.5 ips ††	12972A-006†	12972A-006†	Additional 37.5 ips Tape Drive master unit, multi-unit cable, head cleaner and 2400 ft reel of tape (deletes controller)	7,428	59.20

†Uses two I/O slots    ††Maximum of four tape drives on one controller interface.

CAPABILITY	EQUIPMENT SUPPLIED		DESCRIPTION	LIST	MONTHLY
	HF SUBSYSTEM NUMBER 115V; 60 Hz	230V; 50 Hz		PRICE \$A	MAINTENANCE \$A
F. Same as C; 25 ips ††	12972A-007†	12972A-007†	Additional 25 ips Tape Drive master unit, multi-unit cable, head cleaner and 2400 ft reel of tape (deletes controller)	7,428	59.20
G. Same as A (2nd, 3rd, or 4th drive)††	12972A-010†	12972A-010†	Additional 45 ips Tape Drive (slave unit, multi-unit cable, head cleaner and 2400 ft reel of tape)	5,340	59.20
H. Same as B (2nd, 3rd, or 4th drive)††	12972A-011†	12972A-011†	Additional 37.5 ips Tape Drive (slave unit, multi-unit cable, head cleaner and 2400 ft reel of tape)	5,340	59.20
I. Same as C (2nd, 3rd, or 4th drive)††	12972A-012†	12972A-012†	Additional 25 ips Tape Drive (slave unit, multi-unit cable, head cleaner and 2400 ft reel of tape)	5,340	59.20
<b>CARTRIDGE DISC SUBSYSTEM</b>					
A. One fixed disc and one removable disc served by the same moving head; 5M bytes.	12960A†	12960A-015†	7900A Cartridge Disc Subsystem (drive, power supply, controller interface, cartridge and software)	12,000	65.60
B. Same as A (2nd, 3rd or 4th drive)△	12960A-010	12960A-010, -015	Additional Drive (drive, power supply, cartridge and cables)	7,860	55.20
C. One removable cartridge disc, front loading, moving head; 2.5M bytes.	12961A†	12961A-015†	7901A Cartridge Disc Subsystem (integral power supply, controller interface, cartridge, and software)	9,724	56.00
D. Same as C (2nd, 3rd, or 4th drive)△	12961A-010†	12961A-010, -015†	Additional Drive (integral power supply, cartridge, and cables)	5,192	45.60
E. Additional disc cartridge.	12869A	12869A	Cartridge	104	-
<b>DISC FILE SUBSYSTEMS</b>					
A. Storage: 23.5M bytes. Transfer rate: 118K words/second. Access time: 32 msec average.	12965A†	12965A-015†	2883A Disc File w/Controller, Power Sequencer, Disc Pack, and Interface	24,640	132.80
B. Same as A (2nd or 4th drive).□	12965A-020†	12965A-020, -015†	2884A Disc File	15,120	103.20
C. Same as A (3rd drive).□	12965A-030†	12965A-030, -015†	2883A Disc File w/Controller and Interface	23,040	129.60
D. Additional Disc Pack.	12868A	12868A	Disc Pack	496	-

† Uses two I/O slots.

†† Maximum of four tape drives on one controller interface.

△ Maximum of four disc drives on one controller interface.

□ Maximum of two disc drives on one controller interface.

CAPABILITY	EQUIPMENT SUPPLIED		LIST PRICE \$A	MONTHLY MAINTENANCE \$A
	HP MODEL NUMBER	DESCRIPTION		
<b>DATA COMMUNICATIONS INTERFACES</b>				
A. Interface for asynchronous data communications.	12587B <sup>△△</sup>	Asynchronous Data Set Interface	440	4.80
B. Interface to Bell Systems 801 Automatic Calling Unit.	12589A <sup>△△</sup>	Automatic Calling Unit Interface	320	2.40
C. Interface for synchronous send and receive data transmission.	12618A <sup>△△</sup>	Transmit-Receive Synchronous Data Set Interface	560	4.00
<b>TERMINAL INTERFACES</b>				
A. EIA compatible Interface	12531C <sup>△△</sup>	Current Loop Terminal Interface	280	3.20
B. EIA Compatible Interface; 110, 220, 440, 880 or 1760 bps	12531C-001 <sup>△△</sup>	Local Terminal Interface	324	3.20
C. Same as B via data modem	12531C-002 <sup>△△</sup>	Remote Terminal Interface	324	3.20
D. EIA Compatible Interface	12531D <sup>△△</sup>	Current Loop Buffered Interface Terminal	280	3.20
E. Same as B; 150, 300, 600, 1200 or 2400 bps	12531D-001 <sup>△△</sup>	Local Terminal Interface	324	3.20
F. Same as E via data modem.	12531D-002 <sup>△△</sup>	Remote Terminal Interface	324	3.20
G. Interface for 2600A CRT	12880A <sup>△△</sup>	Display Terminal Interface	280	3.20
<b>GENERAL PURPOSE INTERFACES</b>				
A. Generates real-time intervals from 100 $\mu$ sec to 1000 $\mu$ sec (derived from crystal oscillator) for use as source of timed interrupts for software clock.	12539C	Time Base Generator	440	2.40
B. Provides 16 form-A contacts and 48-pin mating connector for operating external devices.	12551B <sup>△△</sup>	Relay Output Register	412	1.60
C. Same as B with readback.	12551B-001 <sup>△△</sup>	Relay Output Register with Readback	432	3.20
D. Dual 8-bit register and 48-pin mating connector for bi-directional data transfer between computer and external device (positive true).	12597A <sup>△△</sup>	8-Bit Duplex Register	332	1.60
E. Same as D (negative true).	12597A-001 <sup>△△</sup>	8-Bit Duplex Register	332	1.60
F. Dual 16-bit register and 48-pin mating connector for bi-directional data transfer between computer and external device (positive true).	12554A <sup>△△</sup>	16-Bit Duplex Register	360	2.40
G. Same as F (negative true).	12554A-001 <sup>△△</sup>	16-Bit Duplex Register	360	2.40
H. Dual 16-bit register, 48-pin connector and cable for bi-directional data transfer between computer and external device at DTL/TTL voltage levels (ground true).	12566B <sup>△△</sup>	Microcircuit Duplex Register	400	2.40
I. Same as H but with 24-pin connector and input and output tied to form a single 16-bit bi-directional data bus.	12566B-001 <sup>△△</sup>	Microcircuit Duplex Register	400	2.40
J. Same as H (positive true).	12566B-002 <sup>△△</sup>	Microcircuit Duplex Register	400	2.40

†Uses two I/O slots

△△Only I/O diagnostics provided.



CAPABILITY	EQUIPMENT SUPPLIED		LIST	MONTHLY
	HP MODEL NUMBER	DESCRIPTION	PRICE \$A	MAINTENANCE \$A
K. Control and flag circuitry on input/output breadboard.	12620A <sup>^^</sup>	General Purpose I/O Interface	104	2.40
L. Two D-A conversion channels, 8-bits/channel.	12555B <sup>^^</sup>	Dual 8-Bit D-A Converter	480	1.60
M. Interface for CalComp 563 or 565 digital plotter.	12560A	Digital Plotter Interface	400	2.40
N. Universal Interface Card providing high speed 16 bit duplex (differential I/O) transmission.	12930A	Universal Interface	724	1.60
O. Same as N (Ground true, positive false; TTL logic).	12930A-001	Universal Interface	724	1.60
P. Same as N (Positive true, ground false; TTL logic).	12930A-002	Universal Interface	724	1.60

<sup>^^</sup> Only I/O diagnostics provided.



For more information, call your local HP Sales Office or East (201) 265-5000, Midwest (312) 677-0400, South (404) 436-6181, West (213) 877-1282. Or, write: Hewlett-Packard, 1501 Page Mill Road, Palo Alto, California 94304. In Europe, Post Office Box 85, CH-1217 Meyrin 2, Geneva, Switzerland. In Japan, YHP, 1-59-1, Yoyogi, Shibuya-ku, Tokyo, 151.

## OPTIONAL CABINETS

Recommended	Number of cabinet bays	Racking space/bay (inches)	Number of outlets	Number of fans	Power	Ordering Information	Price	Maintenance
*	1	56	9	1	115V, 60Hz	29402B-001, 010	868	3.20
*	1	56	9	1	230V, 50Hz	29402B-001, 012	868	3.20
	1	70	11	1	115V, 60Hz	29403B-001, 010	912	3.20
	1	70	11	1	230V, 50Hz	29403B-001, 012	912	3.20
	2	56	18	2	115V, 60Hz	29404B-001, 010	1,432	6.40
*	2	56	18	2	230V, 60 Hz split phase	29404B-001, 011	1,432	6.40
*	2	56	18	2	230V, 50Hz	29404B-001, 012	1,432	6.40
	2	70	22	2	115V, 60Hz	29405B-001, 010	1,596	6.40
	2	70	22	2	230V, 60Hz split phase	29405B-001, 011	1,596	6.40
	2	70	22	2	230V, 60Hz	29405B-001, 012	1,596	6.40

All the above cabinets include base extensions. Any of these cabinets are acceptable for data systems equipment. However, the factory preferred cabinets, used by Data Systems Division for standard systems, are indicated with a star (\*).

Cabinet orders must be accompanied by a racking diagram indicating the mounting positions for equipment. If rack mountable equipment is included on the same order with the cabinet, HP will rack mount the equipment. If a 2100 computer is ordered other than in a system and is to be rack mounted, instrument slides must be ordered for the 2100.

## Cabinet Accessories

12692B	Instrument slides for 2940B Cabinets	52	N/C
-003	Brackets for instruments over 2.5 inches high	20	N/C