UNIVAC 9480
NEW PRODUCT ANNOUNCEMENT

UNIVAC effectively replaced the UNIVAC 9400 on March 15, 1973, by announcing the immediately available, substantially less expensive Model 9480 as a direct replacement. The newer machine differs from the older 9400 only in that its main store utilizes MOS semiconductors rather than UNIVAC's familiar plated wire. The new processor, the peripheral subsystems available for it, and the software are all unchanged from the 9400 except for minimum memory capacity and a few restrictions affecting outdated peripherals. Many of those restrictions will not apply in converting a 9400 to a 9480.

Conversion is stressed by UNIVAC; in fact, 9400 systems ordered after March 31, 1973, will be delivered as 9480's at the latter's reduced prices. Conversion is of considerable benefit to users—savings on the CPU and storage in purchased systems will range from 20% on a 65K CPU to 48% on a 256K CPU. Rental savings are in direct proportion.

In an additional announcement, UNIVAC made its 8424 (dual-density IBM 2314-type) Disc Storage available to both 9400 and 9480 users.

Finally, UNIVAC announced reductions in plated-wire memory prices for certain-size memory expansions on 9400 systems. These new prices appear below, along with complete 9480 and 8424 prices. The 9480 is available on a 5-year lease at an additional saving of 25%.

UNIVAC 9480: The 9480 is identical to its predecessor in all respects except for the type of storage used and the main memory sizes available. Its memory speed (600 nanoseconds per two bytes), instruction execution time (6 microseconds for a binary add), and instruction repertoire are the same. On the 9480, unlike the 9400, the basic CPU includes storage (64K) and one selector channel (333 KB/sec). Storage on a 9480 can be expanded to 96K, 128K, 192K, or 256K (K = 1,024 bytes). A second selector channel is optional. Optional storage protection, as on the 9400, is write-only and protects 512-byte blocks of contiguous storage on 64-128K machines and 1,024-byte blocks on 192K or 256K machines. Also like the 9400, the 9480 has no floating-point arithmetic facilities.

The net effect of the 9480 announcement is to improve the price/performance of a 9400-type system by lowering prices while maintaining performance at the same level. It can be surmised that UNIVAC hopes to retain its installed 9400-type user base in the face of competition from the now virtual-memory IBM 370/135, as well as from systems such as the Burroughs B 700 Series and Honeywell Series 2000 offerings. The 9400 series is more easily convertible to the IBM System/360 or 370 than to the Burroughs or Honeywell systems. Conversely, because of the larger IBM instruction repertoire, it can be relatively difficult to convert from a 360 or 370 to a 9400 or 9480. The 9400 was very competitive with IBM 360/30 and 360/40 systems, and the 9480 is even more so—although this statement might not apply to used 360/30's and 40's that are obtained at third-party rates, equipped with memory expansion, and, perhaps, even fitted with CPU accelerators.

In comparison with the IBM System/370, the 9480 offers twice the real main memory capacity of the 370/125 and slightly more than the 370/135. Its CPU performance is likewise competitive, and its I/O channels are higher-powered than those of the 370/125. However, the 9480, while about one-third less expensive than a 125, has no virtual storage capability and no disc facility equal to that of the IBM 3330 or 3340.

The restrictions on peripherals that can be used on 9400's but not 9480's are minor: (1) 7-track Uniservo VI C equipment and related features are not available on new 9480 orders, but this equipment can be retained (though not increased in number) when converting from a 9200, 9300, or 9400 system; (2) the 9-track Uniservo VI C Type 0858-99 is only available to new 9480 systems in a maximum 2-drive configuration; (3) the 8411 Disc Subsystem is unavailable on new 9480 orders, but can be carried over and even increased in number (subject to

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availability); and (4) rental or leased Series "D" systems cannot be used as 9480 I/O sub-systems. None of the foregoing restrictions apply to peripherals for on-order 9400 systems that are converted to 9480's; the ordered peripherals will be shipped with the 9480, if required.

8424 DISC STORAGE: The 8424 is a "double-density" version of the 8414, which is UNIVAC's equivalent of the well-known IBM 2314. The 8424 unit provides two independent disc drives, each with a capacity of 58 million bytes. Average head movement time is 30 milliseconds, average rotational delay is 12.5 milliseconds, and data transfer rate is 312,000 bytes per second. Each replaceable disc pack has twenty 406-track surfaces. On a 9480 or 9400, the subsystem's 5024-99 controller can handle up to four dual-drive 8424-00 disc units for a total on-line capacity of 466 million bytes. The controller has file scan and record overflow capabilities, but neither of these is supported in 9400/9480 software. Optionally available for the 8424 subsystem are Dual Access and Dual Channel features. Dual Access, required on every drive in a subsystem, provides a simultaneous read/write, read/read, and write/write capability when the subsystem also has two controllers, each connected to a separate selector channel. Dual Channel provides nonsimultaneous access to a controller from two selector channels under control of an operator's manual switch. □

EQUIPMENT PRICES

		Purchase Price	Monthly Maint.	Rental (1-year lease)*
9840 PROCESSOR AND MAIN STORAGE				
3019-98	9480 Processor (includes Operator's console, Keyboard/Printer, Internal Timer, Multi-plexor Channel, Selector Channel, and 65,536 bytes of Main Storage)	131,600	670	3,290
F1092-01	Selector Channel 2	7,830	32	189
F1091-00	Storage Protection (write)	4,350	21	105
F1893-01	32,768-byte Storage Expansion	20,335	50	490
7028-99	65,536-byte Storage Expansion	36,520	100	880
F1983-99	65,536-byte Storage Expansion (used with two F1893-01's and one 7028-99 to reach 262,144 bytes)	36,520	100	880
8424 DISC STORAGE SUBSYSTEM**				
5024-99	8424 Controller (for up to four 8424's)	48,345	310	1,165
8424-00	8424 Disc Storage (dual drive)	29,880	170	720
F1771-01	Dual Access (per 8424-00 unit)	4,320	10	90
F1043-00	Dual Channel	3,700	15	85
F1214-01	Disc Pack (58 million bytes)	375	—	20
9400 STORAGE PRICES (NEW)				
7010-75	196K bytes of Main Storage	238,896	974	5,688
7010-74	262K bytes of Main Storage	278,586	1,114	6,633
7071-73	65K byte Storage Expansion	55,976	180	1,275
7010-72	65 K byte Storage Expansion	39,690	140	945

*Rental prices do not include equipment maintenance. Longer-term, reduced-rate rentals are available.
**See the preceding UNIVAC 9400 report for prices of I/O units other than the 8424.