Amdahl 470 Systems

	Excellent	Good	Fair	Poor	WA*
Ease of operation	6	0	0	0	4.0
Reliability of mainframe	6	0	0	0	4.0
Responsivenesss of maintenance service	6	0	0	0	4.0
Effectiveness of maintenance service	5	1	0	0	3.8
Technical support	5	1	0	0	3.8
Ease of programming	6	0	0	0	4.0
Ease of conversion	6	0	0	0	4.0
Overall satisfaction	6	0	0	0	4.0

*Weighted Average on a scale of 4.0 for Excellent.

The user ratings awarded the 470V/6 do not provide much of an opportunity for analysis. Clearly, the system performs exactly as expected, it is fully compatible with its IBM counterparts, and Amdahl has gone beyond IBM in providing reliability and maintenance aids. Further, the Amdahl users are convinced that the company has not stopped at providing good, efficient hardware, but has assembled a highly competent field support organization in sufficient numbers to insure the highest possible system availability.□

transfer rate of one word every eight cycles. The DACL is organized as a pipeline to allow overlapping of the functions. It polls each channel every 16 cycles for service requests, concurrently transfers data in both directions between the Storage Unit and the Channel Buffer Store, and reads or stores the results of each transfer operation.

The OCL translates channel commands and coordinates channel program execution for the C-Unit.

A dynamic priority scheme controls the allocation of service to I/O channels. Channels can issue high-priority and low-priority requests for service. Each channel is assigned a 32-byte buffer area in the Channel Buffer Store. Channels with less than half a buffer area remaining are assigned high priority, while those with more than half a buffer space available are assigned low priority. The S-Unit resolves conflicts for access to the High-Speed Buffer according to its own internal priority structure, permitting high-priority channel requests to take precedence over central processor requests for access to the High-Speed Buffer. An I/O operation is always executed at a higher priority than buffer prefetch operations.

The C-Unit performs parity checks on all input and output data transfers and on data transfers to the Storage Unit. Other functions include channel indirect addressing comparable to that implemented on the System/370, and extended channel logout.

According to Amdahl, the 470V/7 I/O operations will be similar to those of the 470V/5 and 470V/6-II, but there will be certain differences within the DACL and CICL units. No details were forthcoming at the time of this writing.

PERIPHERAL EQUIPMENT

The Amdahl 470 systems can utilize all IBM System/360 and System/370 input/output and mass storage devices, as well as their plug-compatible counterparts from independent vendors. Detailed coverage of many of these peripherals can be found in Volume 2 of DATAPRO 70.

SOFTWARE

Amdahl offers complete functional compatibility with IBM System/360 and System/370 software. Amdahl Corporation intends to support users of current IBM system software by providing new releases of the software, including minor modifications to account for differences in the way the 470's handle machine check conditions, and by supplying software support services for its customers.

Operating systems supported include OS/MVT, OS/VS1, OS/VS2 (SVS and MVS), and VM/370. Also included is support for such major IBM subsystems as HASP, ASP, TSO, TCAM, JES2, JES3, VTAM, RSCS, CMS, and IPCS.

Amdahl maintains a Programming Systems Support (PSS) group that supplies its own versions of the supported IBM systems releases. The PSS group also issues Amdahl versions of the IBM Program Temporary Fix (PTF) tapes.

PRICING

The Amdahl 470 systems are offered for purchase or for lease under a four-year operating lease plan. The new leases can be terminated after three years upon payment of a penalty. The monthly rental charges include 24-hours-per-day, 7-days-per-week maintenance, property taxes, and insurance fees. Amdahl also passes two-thirds of the investment tax credit to both purchaser and lessee.

Other lease terms include purchase credits of 50 percent of total lease payments, lease renewal discounts, and a price escalation limit of 5 percent per year. Rental charges for lease extensions are 80 percent of the last month's payment for a 12-month extension, 70 percent for a 24-month extension, and 60 percent for a 36-month extension.

Prices for all current configurations of the Amdahl 470 systems are shown in the following Equipment Prices section.■

EQUIPMENT PRICES

		Purchase Price	Monthly Maint.*	Rental** (4-year lease)
PROCESSORS AND MAIN MEMORY				
470/V5	CPU Complex; includes 16K-byte buffer storage, console including maintenance processor, and power distribution unit; main memory and channels as indicated below.			
	With 4,194,304 bytes of main memory and:			
	8 channels	2,000,000	8,500	52,000
	12 channels	2,150,000	9,000	58,000
	16 channels	2,300,000	9,500	64,000
	With 6,291,456 bytes of main memory and:			
	8 channels	2,170,000	9,450	58,000
	12 channels	2,320,000	9,950	64,000
	16 channels	2,470,000	10,450	70,000

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		Purchase Price	Monthly Maint.*	Rental** (4-year lease)
PROCESSORS & MAIN MEMORY (Continued)				
	With 8,388,608 bytes of main memory and:			
	8 channels	2,340,000	10,400	64,000
	12 channels	2,490,000	10,900	70,000
	16 channels	2,640,000	11,400	76,000
470V/6-II	CPU Complex; includes 32K-byte buffer storage, console including maintenance processor, and power distribution unit; main memory and channels as indicated below.			
	With 4,194,304 bytes of main memory and:			
	8 channels	2,380,000	8,850	62,500
	12 channels	2,530,000	9,350	68,500
	16 channels	2,680,000	9,850	74,500
	With 6,291,456 bytes of main memory and:			
	8 channels	2,550,000	9,800	68,500
	12 channels	2,700,000	10,300	74,500
	16 channels	2,850,000	10,800	80,500
	With 8,388,608 bytes of main memory and:			
	8 channels	2,720,000	10,750	74,500
	12 channels	2,870,000	11,250	80,500
	16 channels	3,020,000	11,750	86,500
470V/7	CPU Complex; includes 32K-byte buffer storage, console including maintenance processor, and power distribution unit; main memory and channels as indicated below.			
	With 4,194,304 bytes of main memory and:			
	12 channels	3,080,000	9,600	75,000
	16 channels	3,230,000	10,100	81,000
	With 6,291,456 bytes of main memory and:			
	12 channels	3,250,000	10,550	81,000
	16 channels	3,400,000	11,050	87,000
	With 8,388,608 bytes of main memory and:			
	12 channels	3,420,000	11,500	87,000
	16 channels	3,570,000	12,000	93,000
	With 12,582,912 bytes of main memory and:			
	12 channels	3,760,000	13,400	99,000
	16 channels	3,910,000	13,900	105,000
	With 16,777,216 bytes of main memory and:			
	12 channels	4,100,000	15,300	111,000
	16 channels	4,250,000	15,800	117,000
PROCESSOR OPTIONS				
Two-Byte Interface for I/O Channels		1,400	NC	40
Channel-to-Channel Interface		32,500	NC	900
4-Channel Group		175,000	NC	—
Upgrade; 470V/5 to 470V/6-II		480,000	NC	—
Upgrade: 470V/6 to 470V/6-II		125,000	NC	—

* Maintenance prices include 24-hour, on-call service 7 days per week.
**Rental prices include maintenance.

Amdahl 470 Systems

New Product Announcement

New software and hardware capabilities continue to emerge from Amdahl's Sunnyvale, California headquarters. The latest additions to Amdahl's line of 370-compatible mainframes, the 470V/5-II and the 470V/8, bring the number of processors in the 470 family to six. Software comes in the form of a new MVS/VM product called the VM Performance Enhancement (VM/PE).

THE NEW PROCESSORS: The 470V/5-II is an improved version of the 470V/5 that features a 100 percent capacity increase in the high-speed buffer (from 16K bytes in the 470V/5 to 32K bytes in the 470V/5-II) and a 10 percent improvement in performance. The fetch time for the buffer is 65 nanoseconds.

The 470V/8 is the present top of the 470 line, operating 20 to 30 percent faster than the 470V/7 in an interactive (high supervisory state) environment. Three factors affect the speed of the 470V/8. First, the high-speed buffer size has been doubled (from 32K bytes in the 470V/7 to 64K bytes in the 470V/8). The buffer is designed so that frequently used data may reside in more than one area in order to provide faster data access. The buffer fetch time is 52 nanoseconds. Second, the processor cycle time has been reduced to 26 nanoseconds in the 470V/8, compared to 29 nanoseconds in the 470V/7. Finally, the 470V/8 high-speed buffer contains logic to implement data prefetching. With this technique, the logic predicts the next most logical consecutive data needed and moves it into the buffer. Although the 470V/8 is an enhancement of the V/7, it does not contain any new technology from the Fujitsu M-200 manufactured by Amdahl's part owner and supplier, Fujitsu.

Field upgrading is possible throughout the 470 line. The 470V/5 can be upgraded to a 470V/5-II, 470V/6, or 470V/6-II; and the 470V/7 can be upgraded to a 470V/8. The 470V/5-II is available with 8, 12, or 16 channels; the 470V/8, with 12 or 16 channels. Through console option, the channels can be employed either as byte or block multiplexers.

Memory capacity of the 470V/5-II varies from 4 to 8 million bytes; the increment size is 2 million bytes. The 470V/8 main memory varies from 4 to 16 million bytes in increments of 2 or 4 million bytes.

Shipments of the 470V/5-II are expected to commence in January 1979. Deliveries of the 470/V8 will begin in September 1979.

VM/PE: This software product enables an Amdahl user to run the IBM MVS control program on the same computer as the IBM VM/370 control program. Amdahl claims that the utilization of VM/PE offers significant and immediate performance improvements to the user. These improvements, according to Amdahl, could mean that users will experience MVS throughput with VM/370 that could be greater than 90 percent of the MVS native-state throughput. VM/PE will be available beginning in February 1979.□

EQUIPMENT PRICES

		Purchase Price	Monthly Maint.*	Rental** (4-year lease)
470V/5-II	CPU Complex; includes 32K-byte buffer storage, console including maintenance processor, and power distribution unit—			
	With 4,194,304 bytes of main memory and:			
	8 channels	2,100,000	8,600	54,500
	12 channels	2,250,000	9,100	60,500
	16 channels	2,400,000	9,600	66,500
	With 6,291,456 bytes of main memory and:			
	8 channels	2,270,000	9,550	60,500
	12 channels	2,420,000	10,050	66,500
	16 channels	2,570,000	10,550	72,500
	With 8,388,608 bytes of main memory and:			
	8 channels	2,440,000	10,500	66,500
	12 channels	2,590,000	11,000	72,500
	16 channels	2,740,000	11,500	78,500

Amdahl 470 Systems

New Product Announcement

EQUIPMENT PRICES

		Purchase Price	Monthly Maint.*	Rental** (4-year lease)
470V/8	CPU Complex; includes 64K-byte buffer storage, console including maintenance processor, and power distribution unit—			
	With 4,194,304 bytes of main memory and:			
	12 channels	3,280,000	10,050	80,000
	16 channels	3,430,000	10,550	86,000
	With 6,291,456 bytes of main memory and:			
	12 channels	3,450,000	11,000	86,000
	16 channels	3,600,000	11,500	92,000
	With 8,388,608 bytes of main memory and:			
	12 channels	3,620,000	11,950	92,000
	16 channels	3,770,000	12,450	98,000
	With 12,582,912 bytes of main memory and:			
	12 channels	3,960,000	13,850	104,000
	16 channels	4,110,000	14,350	110,000
	With 16,777,216 bytes of main memory and:			
	12 channels	4,300,000	15,750	116,000
	16 channels	4,450,000	16,250	122,000
	Field Upgrades:			
	470V/5 to 470V/5-II	125,000	—	—
	470V/5 to 470V/6	355,000	—	—
	470V/5-II to 470V/6-II	355,000	—	—
	470V/7 to 470V/8	250,000	—	—
	Field addition of four channels	175,000	—	—
	VM/PE	1,500	—	—