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▷ environment. Two users were running DOS/MVT from Software Pursuits, and one was using EDOS/VS, from Nixdorf Computer Software Company. COBOL was the most popular programming language, with 11 users, followed by Assembler (4), PL/1 (2), and FORTRAN (1). Seven reported using a data base management system, and thirteen were using a communications monitor. Two Magnsuon users were performing word processing in their systems.

With few exceptions, Magnuson users were very pleased with their systems, and had no plans to replace them in 1981. Activities planned for 1981 included adding more proprietary software, more data communications, and expanding hardware facilities. Only a few users were planning increased distributed processing and word processing activities for 1981. Of the 18 respondents, 16 felt their systems performed as expected, and two were undecided. Seventeen said they would recommend their systems to other users, while the remaining user was undecided. The following chart presents Magnuson user ratings for 1981.

	Excellent	Good	Fair	Poor	WA*
Ease of operation	13	5	0	0	3.72
Reliability of Mainframe	16	2	0	0	3.89
Reliability of Peripherals	3	13	0	0	3.19
Responsiveness of maintenance service	8	9	0	0	3.47
Effectiveness of maintenance service	7	9	1	0	3.35
Technical support:					
Trouble-shooting	6	9	1	0	3.31
Education	5	6	6	0	2.94
Documentation	4	10	2	1	3.00
Operating system	3	10	0	0	3.23
Compilers and assemblers	1	11	0	0	3.08
Applications programs	0	7	1	0	2.88
Ease of programming	3	9	0	0	3.25
Ease of conversion	11	5	1	0	3.59
Overall satisfaction	11	7	0	0	3.61

*Weighted Average on a scale of 4.0 for Excellent.

Datapro telephoned several Magnuson users for their comments, which were consistent in their praise for the M80. Our first call was a midwestern manufacturing firm's DP center, that uses its M80/32 for on-line transactions with its banking subsidiary as well as its manufacturing operations. The company's previous computer, an IBM 360/50, had insufficient power to handle on-line activities, and they selected the M80 over an IBM 4341-1 because of the M80's lower price and upgradeability. The conversion was very easy, the M80 has had virtually no problems, and the DP manager rated Magnuson's support a "10." He praised the M80's ability to test itself because of its separate diagnostic processor. His future plans include expanded banking activities which he was confident the M80 could handle easily.

Our next call was to a media organization in the northeast that previously used the timesharing services of National CSS before doing its work in-house. Both a Hewlett-Packard HP-3000 and IBM 4341-1 were considered before going to a Magnuson M80/4. To date uptime has been "excellent," and the DP manager gave Magnuson high ▷

▶ except those that require integrated controllers or adapters, as well as the plug-compatible counterparts of these IBM subsystems offered by other vendors. Detailed coverage of many of these peripherals can be found in Volume 2 of DATAPRO 70.

SOFTWARE

All of the current M80 Series computer systems fully support the following IBM operating systems: DOS/VS, DOS/VSE, OS/VS1, OS/VS2 (SVS and MVS), and VM/370. Detailed descriptions of these operating systems can be found in Reports 70C-491-06 (IBM 303X Series) and 70C-491-08 (IBM 4300 Series). Extended Control Program Support (ECPS) for VS1, DOS/VSE, and VM/370 is standard in all models.

Magnuson users purchase their system software from IBM and then obtain software support from Magnuson as part of the company's unbundled hardware and software maintenance program. Magnuson also provides several microcode-based products that offer improved system performance. The current products available are listed below.

DIRECT CONTROL: A hardware/firmware product that permits connection of IBM 1419 Magnetic Character Readers on-line to an M80 system. When the 1419 is switched to on-line mode, it interrupts any other jobs in progress and operates at the highest priority level allowed by the operating system. The feature includes a circuit board, microcode, and a cable for connecting the 1419.

MVS Extended Facilities: A microcode assist product designed to support IBM's MVS/System Extension releases 1 and 2, and MVS/System Program releases 1, 2, and 3. The product is claimed to increase system performance as much as 17 percent.

IDMS Microcode Assist: In a joint effort with Cullinane Database Systems, Magnuson developed a microcode enhancement for M80 systems using Cullinane's IDMS data base management system. IDMS:MA adds several ECPS-type instructions to the System/370 instruction set which replace frequently used routines in IDMS. Performance increases of 10 to 15 percent have been projected by Magnuson when running IDMS and using the IDMS:MA feature.

PRICING

The Magnuson M80 Series systems are offered for out-right purchase or under an unusually flexible direct leasing program.

Five basic types of leases are available:

● Operating leases—12- to 24-month leases with purchase option accruals of up to 50 percent of the monthly payments and optional investment tax credits.

● Finance leases (commercial)—48- to 72-month leases with options to either terminate or purchase at the end of the initial term.

● Finance leases (government)—48- to 84-month leases with full payout and equipment ownership together with fiscal funding protection.

● Tax-oriented leases—60- to 84-month leases under which the lessor retains tax benefits and equipment ownership, resulting in a low effective interest rate for the lessee. ▶

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▷ marks for service. One key point was that he always gets the same technicians, if and when a repair is needed. Although he commented that Magnuson's documentation was somewhat limited, he felt the system's ease of operation more than offset that problem. They are planning to upgrade their system to an M80/43 in the fall, and add another channel and disk controller.

Our final interview was with a southeastern bank whose original pair of 370/135s was replaced by two M80/3s. Subsequently they upgraded to two M80/4s, and then to the present M80/32s. All the conversions were "100% smooth," according to the firm's DP director. A multi-vendor advocate, the DP director told Datapro he saved about $50,000 by going with Magnuson, and has experienced "99.9%" uptime ever since. Interestingly, since becoming a multi-vendor shop (with over a dozen firms on the playing field), has staff morale has improved and turnover has declined. He is very proud of his Magnuson systems, and told Datapro that whenever he's needed service, Magnuson has "come through like champs." Both M80/32s are targeted for upgrading to M80/42s next year.□

▶ Two-year lease prices are provided at the end of this report. For additional pricing options, contact Magnuson.

The cost of an upgrade from one M80 Series model to another is equal to the difference in purchase price between the two models.

Magnuson's customer support organization has service offices currently located in 21 cities nationwide. Under the company's unbundled hardware/software maintenance program, support for both the hardware and system control programs (SCPs) is provided by a local Systems Support Representative (SSR). Backup support for the SSR is provided by the M80 Remote Support Facility, which establishes an on-line link between the user's computer and Magnuson's Technical Support Center in Santa Clara. The Remote Support Facility provides access to technical specialists who can assist the local SSR in diagnosing and correcting both hardware and SCP problems.

The minimum monthly maintenance charges, as shown in the following price list, include support for both the hardware and system control programs for one shift per day, five days per week. Full maintenance coverage for 24 hours per day, seven days per week is available.

EQUIPMENT PRICES

		Purchase Price	Monthly Maint.	Monthly* Rental Charge	2-year* Lease
PROCESSORS AND MAIN MEMORY					
M80/30	Processing Unit with 512K bytes of storage, 2 configurable channels, system console with audible alarm, and remote data link	$86,050	$303	$3,753	$3,218
4500	512K-byte memory module	7,850	12	238	202
4600	1,024K-byte memory module	15,700	23	475	404
M80/31	Processing Unit with 1,024K bytes of storage, 3 configurable channels, system console with audible alarm, and remote data link	116,000	303	5,599	4,795
4600	1,024K-byte memory module	15,700	23	475	404
M80/32	Processing Unit with 1,024K bytes of storage, 3 configurable channels, system console with audible alarm, and remote data link	146,000	303	6,936	5,931
4600	1,024K-byte memory module	15,700	23	475	404
M80/42	Processing Unit with 2,048K bytes of storage, 3 configurable channels, system console with audible alarm, and remote data link	183,000	450	8,134	6,956
4700	1,024K-byte memory module	15,700	23	475	404
M80/43	Processing Unit with 2,048K bytes of storage, 3 configurable channels, system console with audible alarm, and remote data link	228,000	450	10,004	8,568
4700	1,024K-byte memory module	15,700	23	475	404
M80/44	Processing Unit with 2,048K bytes of storage, 6 configurable channels, system console with audible alarm, and remote data link	290,000	465	11,400	9,765
4700	1,024K-byte memory module	15,700	23	475	404

*Includes maintenance.

		Purchase Price	Monthly Maint.	Monthly* Rental Charge	2-year* Lease
SYSTEM OPTIONS					
3600	Additional channel for M80/30, /31, and /32	5,600	5	192	164
3700	Additional channel for M80/43, /43, and /44	5,600	5	192	164
3750	Channel-to-channel Adapter				
	1st line	12,500	19	—	—
	2nd and 3rd line, each	10,000	15	—	—
7820	Remote console	7,500	4	—	—
7840	Console Printer	9,000	35	—	—
8500	Expansion Module	43,380	130	—	—
8550	Direct Control	5,640	4	—	—
8560	Light Pen	430	1	—	—

	Purchase Price	Monthly Maint.	Monthly* Rental Charge	2-year* Lease
SOFTWARE				
MVS Extended Facilities	8,000	—	—	—
IDMS Microcode Assist (IDMS:MA)	5,000	—	—	— ■

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Product Enhancement

On November 27, 1981, Magnuson unveiled two new models in its M80 family of plug-compatible mainframes and slashed purchase prices across the board. The announcements followed IBM's November 18 four-model 4300 product barrage. Like all other M80 models, the two new systems are fully field-upgradeable and offer improved price/performance over the comparable 4300 model. Magnuson also announced a 12-month warranty on all purchased systems effective December 1, 1981.

M80/30E: This new model is said to offer about 10 percent more performance than the IBM 4331 Model Group II, yet costs about 10 per cent less. It features one megabyte of memory, three channels, and can be expanded to eight megabytes of memory and seven channels. The M80/30E can be directly field upgraded to the new M80/41, and is targeted for distributed processing and scientific applications, in addition to traditional commercial ones.

M80/41: Like the M80/30E, the M80/41 is aimed at DDP and scientific applications, has about 10 percent more power than the IBM 4341 Model Group 10, and costs about 10 percent less. The system has 2 megabytes of main memory, expandable to 16 megabytes, and from 3 to 14 channels. Both new systems, like the entire M80 product line, utilize Magnuson's bus-oriented Strategic Architecture, which simplifies field expansion and upgrading.

Two current M80 models, the M80/30 and M80/43, are said to offer comparable price/performance to IBM's two other new 4300 models. The entry-level M80/30 offers up to 50 percent more power than the IBM 4321 at about the same price, and the more powerful M80/43 has about the same performance as the IBM 4341 Model Group 11, but costs about 20 percent less.

The new M80 models will be available in January 1982 and can be obtained 30 days ARO.

EQUIPMENT PRICES

		Purchase Price	Monthly Maint.	Monthly* Rental Charge	2-year* Lease
M80/30E	Processing Unit with 1,024K bytes of storage, 3 configurable channels, system console with audible alarm, and remote data link	$104,000	$265	$4,404	$3,748
	4600 1,024K-byte memory module	15,700	23	475	404
M80/41	Processing Unit with 2,048K bytes of storage, 3 configurable channels, system console with audible alarm, and remote data link	163,000	620	8,108	6,900
	4700 1,024K-byte memory module	15,700	23	475	404□

Includes maintenance.