

NEWS

No. 41

"Out-thinking our competition to help your customers out-think theirs"

January 1982

Integrated Office Furniture Makes Its Debut

Datapoint's long-awaited computer furniture program is now underway. These products are the newest components of the concept of the Datapoint office system. They will be an easy add-on to any Datapoint hardware order. All you will have to do is make them known to the customer.

The product line's first four products are:

Model Code	Description	U.S. Price
0554	Printer Stand for 30cps printer (9611)	\$250
0582	Workstation Table	595
0583	Peripheral Carrier	275
0584	Riser Shelf	375

These products are available on a sale-only basis. Datapoint® salesmen will be paid normal commission rates for furniture orders that are approved to ship, but volume generated will not count toward ISV.

Order Procedure

This furniture will not be ordered via EOS, but will be ordered separately from other Datapoint equipment. To place an order, complete the Datapoint Supplies Order Form (detachable from Document No. 80001).

The order form is being revised to provide two new spaces: one for the salesman's name and one for the requested delivery date. These two spaces are to be filled out only for furniture orders. Until the revised order form is ready, write the requested delivery date and the salesman's name (important for commission!) in available space on

the present form.

When completed, the order form should be mailed to Datapoint Corporation, 9725 Datapoint Drive, Mail Station T-82, San Antonio, Texas 78284, Attention: Customer Support Center. No phone orders will be accepted.

Be sure the customer understands that the furniture will be shipped and billed separately from any Datapoint hardware that may have been ordered. In situations where a customer is ordering both hardware and furniture, you should hold the furniture order until the hardware has been delivered to the customer

site. Normally, furniture will be delivered two weeks after the order has been received (or on whatever later date is requested). You and the customer will receive an order acknowledgement when your furniture order is received in San Antonio.

Customers may also place orders directly by calling 800-531-5770 (in Texas, 800-292-5100; in Alaska and Hawaii, 800-531-5642). An order acknowledgement will be mailed to the customer.

Any furniture orders already submitted via EOS will be shipped and commissions will be paid.

Each of the 64 marketing demo offices across the country will receive a complete set of furniture early this year.

*Randy Mudarri
Ext. 5380*



At the recent product announcements in New York, Dan Hosage, Executive Vice President, International Operations, described how the new Color Business Graphics System, laser printer, and facsimile interface fits into Datapoint's concept of the integrated electronic office. Some 4,500 slides, put together by Jim Sant'Andrea Inc., enhanced his and other speakers' presentations.

Performance Award Winners Announced

Revenue Performance Awards for the categories of top revenue producers and top region are presented to the following winners:

Top Revenue Producers

To be counted among the top revenue producers, a salesman must achieve a minimum of \$500,000 revenue in conversions and sales in FY '82. First prize is a mink coat or \$10,000. Second prize is a trip to Europe or \$5,000. Third prize is a full screen Beta Max TV/Video or \$3,000, and fourth through tenth prize is a gift selection or \$1,000.

The winners are:

Rank	Name	Region
1	Bob Roth	Southern
2	Thorn Walker	Mid Atlantic
3	Joseph Baier	Southeast
4	Mike Bazany	Northeast
5	Dennis Doonan	Northcentral
6	George Rangitsch	Northwest
7	Tom Lowry	Great Lakes
8	Larry Elliott	Southern
9	Edward Lee	New York Metro
10	Michael Prevendar	Great Lakes

Top Region Award

To be eligible for the top region award, a minimum of 110 percent of quota must be achieved for the first quarter. Members of the top region and their spouses receive a weekend resort vacation hosted by Millard Allen, vice president of marketing.

The winner of the top region award is the Southern Region, which pulled in 115 percent of its quota goal. Congratulations to all.

*D.M. Horridge
Ext. 5238*

IEOS/MS 1.4.1 Available on 1500/1550

IEOS/Message Services version 1.4.1 is now available on 1500/1550 products. It offers the convenience of Message Services with the capabilities of IEOS 1.4.1. Now users can participate in their existing Electronic Message network as a remote site, or they can add this new enhancement to their current configuration.

To execute IEOS/MS on diskette, follow the guide for released items below. IEOS/MS has been released on 1500/1550 single sided/single density diskettes for transfer to a 9310 or 9320 10MB cartridge only.

Customers will receive a software file called IEOSTART/PRT, which is an installation guide that can be printed out.

Equipment required to run IEOS/MS from a remote site include: 1500/1550 with communications capability, and synchronous communication lines with 212A, 201C, 208A, or 208B modems. Also, a 6600 used as the Network Controller and a 9481 MFCA must be available at one of the IEOS/MS sites.

Here are the model codes you need when ordering IEOS/MS:

Release Item	Model Code	Description
IEOS/MS	9825	---
Media	20697	(6) SS/SD Diskettes
Media	20809	(5) SS/DD Diskettes
Media	20793	(2) DS/DD Diskettes

IEOS/WP

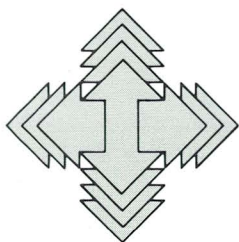
For those of you interested in IEOS/WP 1.4.1 on the 1500 or 1550, changes made from the previous version (1.3.1) include: version 1.4.1 supports the 9611 30 cps printer, and the printer translation table now allows selection of characters at octal positions 040 and 0177 for double-underscore and long vertical bar character access.

The following model codes are needed for ordering IEOS/WP:

Release Item	Model Code	Description
IEOS/WP	9822	---
Media	20697	(5) SS/SD Diskettes
Media	20809	(4) SS/DD Diskettes
Media	20793	(2) DS/DD Diskettes

*Shannon Neal
Ext. 5191*

RMS 1.8 Released



The latest release of the Resource Management System™, RMS™ 1.8, is now available. Major enhancements include:

- generic WSIO in DATABUS® / DATASHARE®
- communications support for 8800 processors (2780/3780, UCF, DATAPOLL® master, and COMM-FAC)
- CAT now defaults to NOSORT

and allows printing directly to the printer.

Product Marketing is actively seeking software beta sites to test the implementation of 8800 HASP and WS 3270 in RMS. If you have a customer who might be interested, please call Joe Jackson at ext. 7151. Remember: NO BETA = NO SOFTWARE.

*Carolyn Lusk
Ext. 7151*

The 8800: A 6-Month Evaluation

The end of the first quarter of FY 82 marks the end of the first six months of 8800 shipments. That six months has included some major, multi-unit customer installations, an exhaustive benchmarking effort, and a lot of role definition for this system. In the following, we'll explore some of the results.

Performance

Detailed performance data have been made available to Datapoint's System organization. In brief, there have been no great surprises. In single-thread operation, the 8800 performs comparably to slightly better (10-20 percent) than the smaller 6600- and 8600-based systems. But, as tasks are added, performance margins widen appreciably. For example, a standalone 8800 outperforms a three-6XXX (or 86XX) ARC™ system due to its multi-tasking capability and elimination of the ARC overhead. In fact, tests to date — running up to 10-wide under a multi-task load — point to substantial (30-40 percent) idle time (margin) in the CPU.

When file serving, the 8800 proves itself resoundingly. In a file management/handling scenario, the 8800 is 300 percent faster than the 6600. The 8800's memory allows extensive buffer allocation, which contributes substantially to general file handling performance and to DATASHARE performance.

Finally, as a result of the benchmarking, both the disk and MPCA drivers are being modified and are available in RMS 1.8. The aggregate BAUD rate through the MPCAs are more than doubled per PP in version 1.8.

Configuration

The key elements of the configuration are the peripheral processors and memory. All communications (via the MPCA or MFCA) are handled exclusively by the PP. Disk I/O is partially handled by the PP (some functions have been moved back to the CP to optimize performance), while RIM and 5500 I/O Bus (printers, tapes) are handled by the CP. Benchmarks have shown that adequate performance can be attained if a PP is allocated to each IMOD type.

For instance, an 8860 with communications should have three PPs for best performance. Remember, the Z-80 is a specialized microprocessor, not a general purpose CPU. In the variable (type and amount) demand environment associated with multiple IMODs, a single PP will basically have to single thread all requests. If operational demand is high, performance could suffer. Dedicated PPs avoid that, affording the greater performance in a multi-tasking, variable demand situation.

The memory constraints on the 8800 are those imposed by RMS and the same as the 6600 — with one big difference. That big difference is 768K of additional memory. If you need a number of 60K partitions to support full function workstations, that's 12 more 8200s. Perhaps more



importantly, this means more than 1/2MB of available buffers. The performance of FMT can significantly benefit from the increase in the number of buffers available.

Let's face it. If all applications were the same, a lot of systems analysts and planners would be out of jobs. With a thorough knowledge of a customer's application and use of the 8800 resources where they'll do the most good, it is easy to configure the 8800 to fit virtually any application. Don't underpower the system. But don't overkill the problem, either.

Super-ARC

One of the installations that has gone operational in the last six months posed an interesting problem. In a non-interactive data entry (DATABUS) and batch (COBOL) operation, a customer had run out of shift time to handle his batch processing — and was anticipating doubling his volume within the year. He also had a requirement, due to the increased volume, to increase the number of workstations by almost 50 percent. His 6600 DOS/ARC could not handle the job.

To make a long story short, our customer rolled in a five 8800 RMS ARC, converted approximately 100 applications, shifted all of his ISAM update activity from the batch environment to the data entry in an interactive mode and:

- increased system capacity by 250 percent,
- established a 15 percent capacity reserve for future growth, and
- reduced the frequency of cumbersome monthly purge and restore of his main file.

Needless to say, he is one satisfied customer.

Disk

We've had a fair number of comments about disks. Surprisingly, almost as many people have asked for smaller disks as larger. Regarding smaller disks, it doesn't make sense to offer a small disk on a big system

continued page 4

8800 continued

such as the 8800. The 8630, for example, provides a smaller storage system at better economies.

Given the size of the 8800, larger disks are a more reasonable option. It is reasonable in that three things are given due consideration:

1. A *Dataquest* survey of minicomputer purchase/usage for the last two years showed the following:

	1979	1980
Average Disk (Per CPU)	87.1 Mb	122.3 Mb

This would seem to indicate that the 9395 sub-system is properly sized for the immediate and near future.

2. CDC, an acknowledged expert, has further explored the issue of disk performance: (See graph below.)

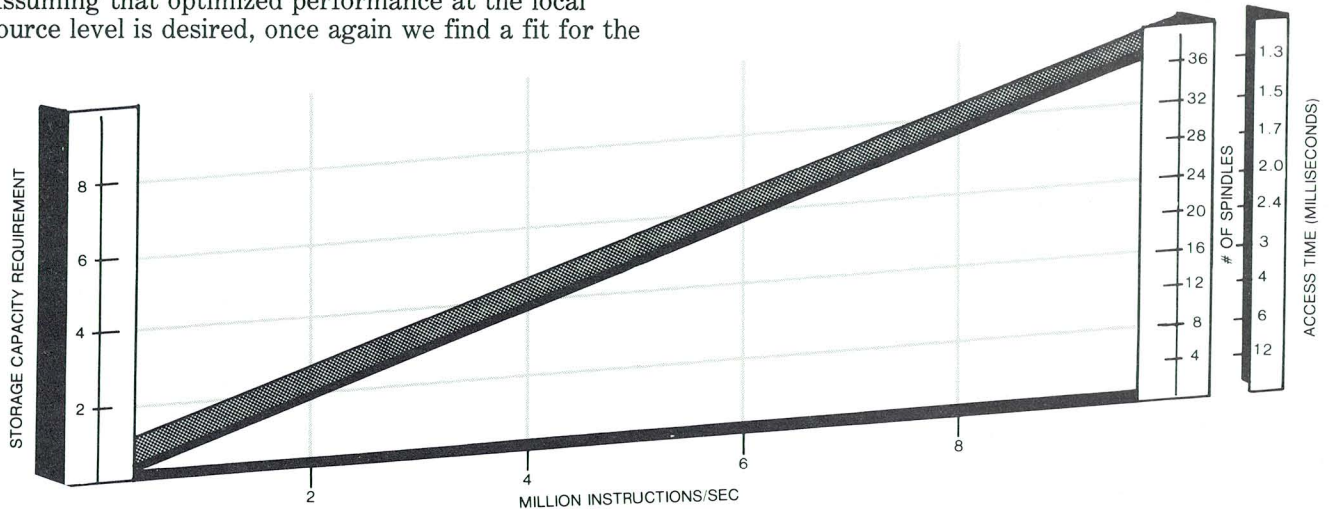
Balancing access time against CPU performance, there are clearly some restraints on the amount of performance — effective on-line storage support.

Assuming that optimized performance at the local resource level is desired, once again we find a fit for the

9395 disk and the 8800 CPU. In fact, for performance only, it is doubtful that most of today's minicomputers are big enough to support a large (300-600 MB) disk effectively. Of course, the larger systems provide better cost per MB ratios, if you can or will accept degraded performance. Ideally, the best answer is a structured system where price and performance can be matched to functional demand. An ARC system with high performance, local nodes, and low cost centralized file processors could fit the bill.

3. Finally, the Datapoint user base is oriented to smaller disks and storage partitioning. Until that changes — as it undoubtedly will with DBMS and large networking — larger disks do not seem appropriate.

Bob Harris
Ext. 7841



Cooperation Helps Make Trade Show a Success

This year, for the first time in its history, Datapoint Spain participated in SIMO, the most important computer exhibition in Spain. The exhibition, which lasted from Nov. 13-21, attracted thousands of visitors from countries throughout Europe.

During the show, Datapoint Spain used an exhibit stand built and loaned to them by Datapoint (U.K.) Ltd. The exhibit was well received by the public and furthered Datapoint's presence in the Spanish computer market.

We extend our thanks to the Datapoint (U.K.) personnel who helped make our computer exhibit such a success.

Carlos Reboll
Managing Director,
Datapoint Spain



The Poor Misunderstood CALL Statement

Many programmers never use CALL. "It's terribly inefficient," they say. "The manual says so." And sure enough, the DBCPLUS User's Guide says "CALLing (a) subroutine is considerably more time-consuming than executing the code in line."

But...

Look again. That's not all the manual says: "If a page swap is invoked by the subroutine CALL, then CALLing the subroutine is considerably more time-consuming..." The villain, you see, isn't the CALL. It's the page swap. By itself, CALL is a pretty fast instruction. But page swaps are always S-L-O-W. And guess what? On modern Datapoint systems, you'll probably get more of those bad page swaps if you don't use CALLs.

So, what's a page swap? And why is it so slow?

When your DATABUS or DATASHARE interpreter executes a program, it doesn't read the whole /DBS file into memory. Rather, it just reads in those sectors (or "pages") containing the code it needs at the moment. As long as the interpreter doesn't need anything outside those pages, it can fetch and execute the code at memory speeds — FAST! But as soon as the interpreter needs code that isn't in memory, it has to read

it in from disk — SLOW! Worse still, the new code may very well overwrite the code that was in memory. So you have to jump back. That original code has to be read in again—another SLOW!

Swapping — S L O W !

That process of reading and re-reading code sectors is called swapping, for obvious reasons. And the more swapping your program does, the slower it's going to run. On old 2200 systems, only one sector of /DBC could be in memory. So almost any CALL or GOTO would require a new page and swapping was a big problem. On modern systems with large memories, an active program may have a dozen or so sectors in memory at the same time. Many CALLs or GOTOs will jump to memory code so swapping doesn't happen as often. But when it does, it's still a problem.

Causes of Swapping

Anything that causes the interpreter to need a new page can cause swapping. A CALL can force a swap, but so can a GOTO, BRANCH, RETURN, TRAP, or just a long in-line routine. In fact, if you write a program totally in-line, you can figure on needing roughly as many disk page reads as there are pages in your listing.

So How Can CALLs Speed Up My Program?

Let's take an example. Say that

you have a long in-line program or routine that occupies 10 successive sectors of its /DBC file. That means you'll need 10 disk reads to get those sectors into memory.

But suppose that 6 times within this program you repeat substantially the same code, about a page of it each time. If you had written this code as a subroutine, the program would occupy only 5 sectors: 4 for the mainline and 1 for the subroutine.

Behold! That version would execute with only 5 disk reads—half as many. (We're making some reasonable assumptions about processor memory and program load.) Furthermore, say this routine is a loop—executed many times—and say your port can reasonably count on having about 5 pages of memory for /DBC code. Using in-line code, you'll average 10 reads per loop—over and over and over because each new page you read overlays a page you'll need again on the next pass through the loop. Lots of swaps! SLOW execution!

Using the version with CALLED subroutine, though, you'd only have 5 disk reads, once. After the first pass, all the code for the entire loop would be right there in memory. Zero swaps! FAST execution!

The Moral of the Story

If you want a fast, efficient program, don't avoid CALLs. Use them to avoid page swaps. And maybe a further moral: Read your manuals carefully, and don't be misled by old wives' tales (or should we say old programmers' rules?)

BRNO Fair Displays Datapoint Products

Datapoint International GES.mbH (Eastern European Operations) continued a decade of tradition this year with its participation in the 23rd Brno International Engineering Fair. The fair, held in Brno, Czechoslovakia from Sept. 9-16, annually attracts thousands of visitors from Hungary, Poland, Bulgaria, Austria, and Czechoslovakia.

Brno, the third largest city in Czechoslovakia, is situated on an historical crossway that connects the Mediterranean with the Baltic

Sea, and the North Sea with the Black Sea. As such, it has become a natural meeting place for tradesmen, dating back to the Moravian kingdom in the 9th Century.

Today, Brno is a modern industrial city known for its textile, leather, wood, and steel industries. In addition to the International Engineering Fair, Brno hosts a variety of other exhibitions for industrial, engineering, and consumer goods.

During the trade exhibition, Data-

point International demonstrated a number of recently introduced products, including the 8800 series processors and the RMS operating system. Also demonstrated were ANSI 74 COBOL, RPG, DATABUS, word processing, and production/inventory control software applications packages.

*Herb Brandstetter
General Manager,
Datapoint International
GES.mbH Austria*

Networks: What They Are, Where They Are, and Who Uses Them

It seems that everyone is talking about networks and the IEO these days. Recently *Fortune*, *Forbes*, *Business Week*, *Datamation*, *Electronics Design*, and *Computerworld*, just to mention a few, have explored the subject in depth.

Why? The answer is easy. Industry is in dead earnest about increasing productivity in the office. Office costs, at \$600 billion per year, are already more than half the cost of doing business.

Datapoint is talking about networks for some even more obvious reasons. The *Fortune* survey of the Fortune 1300 shown below shows Datapoint strongly in the top five suppliers of Distributed Data Processing products. Our leadership position is reinforced by more ARC system installations — operational in a multi-function environment — than all of the other local network suppliers combined.

Industry Comparison -- DDP					
Capability/ Image	Hardware	Software	Reliability	Service	Pricing
IBM	IBM	IBM	IBM	IBM	DEC
DEC	DEC	DEC	DEC	DEC	IBM
H-P	H-P	H-P	H-P	H-P	Data Gen
Datapoint	Wang	Wang	Datapoint	Datapoint	H-P
4 Phase	Datapoint	Datapoint	Wang	Honeywell	Datapoint
Data Gen.	Data Gen.	4 Phase	4 Phase	Burroughs	4Phase
Honeywell	TI	Burroughs	Data Gen.	NCR	Wang
Wang	4 Phase	Data Gen.	Tandem	Sperry U	TI
Burroughs	Tandem	Sperry U	NCR	Wang	N Telecom
N Telecom	Honeywell	Tandem	Honeywell	4 Phase	Burroughs

What we have before us is some confusion in terms. You can find frequent allusion to networks, Local Area Networks, and Local Area Communications Networks. We'll establish some common definitions here to avoid defining the term each time it's used.

Networks Versus Networks

What we have before us is some confusion in terms. You can find frequent allusion to networks, Local Area Communications Networks. We'll establish some common definitions here to avoid defining the term each time it's used.

- Networks - Both a generic term to describe the interconnection of a number of devices and the existing implementations like System Network Architecture (not actually a network in a classical definition like the International Standards Organization model of Open Systems Interconnection--ISO-OSI) and Arpanet, which does follow the ISO-OSI model.

- Local Area Networks — The localized (0-7Km, maximum) interconnection of various resources to form an information processing network. Examples are Ethernet and the ARC system.

- Local Area Communications Networks -- This is a relatively new term being used, for obvious reasons, by companies such as Northern Telecom to define a

localized net with fully interactive remote, multi-type communications. ARC/ISX is an example. So are conceptual products such as WangNet and Northern Telecom's SL-1.

Networks and the User

Who uses networks? According to *Dataquest*, 37.2 percent of all minicomputers in use in 1979 were networked. By 1980, the percentage was 40.6 percent, a 9 percent annual increase hardly influenced at all by the Local Area Networks.

Here's another perhaps more representative way to look at the user market. These data are from a Strategic Business Services survey:

Potential LAN Applications (millions of line terminations)			
	1980	1985	1990
Office*	3.12	6.20	14.50
Operations*	1.40	2.60	6.00
Facilities**	0.13	0.25	0.50
	4.65	9.05	21.00

Estimated Attainable LAN Installations (millions of line terminations)			
	1980	1985	1990
PBX-based control	—	0.07	0.21
EDP-based control	—	0.05	0.14
Stand-alone LAN	—	0.03	0.10
Intelligent LAN terminals	—	0.02	0.25
Totals	NA ✓	0.17	0.70

* KSR Video, telephones, key systems PABX, printers, microcomputers, minicomputers

** Analog controllers, microcomputers, minicomputers

✓ Not analyzed.

These data not only indicate the potential size of the networkable world (note that this refers only to LANs and LACNs), but also the very small dent that will probably be made by the suppliers.

Networks, Ethernet, and IEEE-802

The IEEE established a subcommittee several years ago to develop a local network standard. Be careful. For one, the proposed standard will only cover the first two levels (physical and datalink) of the ISO-OSI model. The other five aren't going to be covered.

Secondly, IEEE-802 is not expected to be approved until late next year. And finally, the standard — as currently structured — will be general enough to cover a number of approaches.

Will everyone wait until the standard is approved? It's doubtful. What is far more likely is that Xerox with Ethernet and a lot of publicity, or Datapoint with the ARC system and field proven capability, or someone else, will establish, in the next year, a de facto standard. That, in turn, could well become the final

revision of 802. It's happened before. Hewlett-Packard's Hp-IB was slightly modified and became the IEEE-488 General Purpose Interface Bus (GPIF).

For now, we'll close with a current comparison of IEEE-802, Ethernet, and the ARC system:

Feature	ARC	Ethernet	IEEE-802
Data rate (Mbits)	2.5	10	1-20
Max. nodes	Unlimited	1024	—
Max. nodes per segment	255	100	100
Max. repeaters per segment	10	2	2
Max. Station separation	6.5 km	2.5 km	2.5 km
Max. segment length	N/A	500m	500m
Medium	Shielded coax, proprietary	Shielded coax, baseband signal	Shielded coax baseband or broadband
Encoding	Bi-polar pulse	Manchester phase	Diff. Manchester phase
Topology	Nonrooted tree	Nonrooted tree	Nonrooted tree
Access	Token passing	CSMA-CD	CSMA-CD or token passing
ISO Model Levels	1 and 2*	1 and 2	1 and 2
Synchronization (bits)	**	64	64

Feature	ARC	Ethernet	IEEE-802
Address (bits)	**	47	6 to 42
Type or Control Field (bits)	**	16	8
Data (bytes)	**	46-1,500	46-1,500
Frame check (bits)	**	32	32

* Extends, to a degree, beyond Level 2
 ** Proprietary data

Coming Attractions

There are four main attributes to a Local Network (LAN or LACN):

- Transmission Media (2- or 3-wire pair, coax, fiber optics)
- Transmission Method (Broadband, Baseband)
- Control Technique (Carrier Sense Multiple Access-Collision Detection, Token Passing)
- Speed

In future issues, we'll discuss each of these separately and how they fit in with Datapoint's and the world's future networking.

*Bob Harris
Ext. 7841*

Errata

In the December issue, "Datapoint Printers: A Comparison" said the 9257 and 9258 band printers are not available with a 5500 I/O interface. That is incorrect. Please make a note of it.

Marketing Information Exchange

Hal Poe in the Birmingham office is looking for applications packages that will handle hospital laboratory, independent laboratory, billing, payroll, and accounting. If you can help, please call speed number 280.

Datapoint Switzerland Shows Products at Bufa 1981

This year marked Datapoint Switzerland's first participation in the Bufa, the most prestigious national exhibition for office and computer products in Switzerland. The exhibition, held in Zurich, lasted from Sept. 8-12.

The Datapoint booth attracted thousands of visitors during the weeklong exhibition, and included product demonstrations of ARC, IEOS, EMS, ITEM Telex Management System, and several commercial software applications. Although equipment is not normally purchased during the exhibition, Datapoint Switzerland sold a number of computer systems (with a total value of SFR. 550,000 or about \$305,000 U.S. dollars) at the trade show and collected over 500 sales prospect leads.

In conjunction with the Bufa exhibition, Datapoint Switzerland held a press conference on Sept. 9 in the



Hotel International in Zurich. Both customers and representatives of the Swiss press attended the conference, and were informed of Datapoint product and marketing strategies, corporate objectives, and worldwide organization. Speakers included Edward P. Gistaro, Executive Vice President and Chief Financial Officer, Datapoint Cor-

poration; Dietger R. Kruger, Managing Director, Datapoint Switzerland; Herman Beck, Director of Sales and Marketing, Datapoint Switzerland; and Michel Reymond, Director of Software, Datapoint Switzerland.

*Susanna Horber
Manager, Public Relations
Datapoint (Schweiz) AG*

O'Kelley Stresses Conservative Growth at 1981 Shareholder's Meeting



Our new 9680 Color Business Graphics System, 9660 Laser Printer and 9498 Facsimile Communications Interface were publicly announced Nov. 16 in New York City. On that afternoon, the annual meeting of shareholders was also held in New York. Following are excerpts from Harold O'Kelley's remarks at that meeting:

Products:

"We have been averaging about a dozen new products a year including peripherals and software. Datapoint is product-rich. There is no other company with this range of capabilities for integrated office automation. Even on paper."

Facilities:

"We have recently expanded our technology centers in Dallas and Berkeley and are now expanding the center in Austin.

"A few weeks ago, we began work on the first phase of our new headquarters complex in San Antonio.

"The following week, I was in Fort Worth for the official dedication of a new 153,000-square foot plant, and we have been producing some products there since August."

Marketing:

"So we have the products and factories to produce them. Our number one priority now is distribution. We need to ensure the orders to fill these factories.

"We almost doubled the domestic field sales organization during fiscal 1981, going from 255 to 491 field sales people and from 141 to 264 supporting systems engineers. The number of OEM accounts and independent system representatives selling Datapoint equipment increased from 381 to 538."

International distribution:

"An extremely important step for Datapoint during fiscal 1981 was gaining positive control over the distribution of our products outside the United States. We have become a truly multi-national company . . .

"Now the distributors in nine countries have become

Datapoint sales and service subsidiaries. We have an equity interest of 90 percent or more in all these countries, having now completed our acquisition of the remaining interest in Spain. We are continuing to negotiate with the government for approval to acquire the Canadian distributor.

"In France, we have reached an agreement in principle with Matra S.A. for the formation of a joint venture to market and service Datapoint and Inforex products. We also have signed letters of intent to acquire the distributors in Finland and Sweden.

"We now have a direct relationship with our 21 distributors. We have a minority equity position in some of these distributors and are negotiating investment at various levels with certain others in addition to the acquisitions mentioned above."

Inforex internationally:

"We recently completed steps that now make Inforex wholly owned by Datapoint. Inforex has eight foreign subsidiaries and an installed customer base in Europe of 2500 customers. There appears to be little duplication between the Inforex and the Datapoint customer bases, and these Inforex data-entry users are prime prospects for upgrading to Datapoint equipment. We will evaluate the merging of some of the Inforex and Datapoint subsidiaries on a country-by-country basis."

Multi-national benefits:

"There are a number of significant benefits from our new multi-national status. First, we will have a much stronger and more visible presence in these markets, many of which are growing, from a smaller base, much faster than in the United States. The increased direct sales and service contact with our users is invaluable in fine-tuning our international marketing efforts.

"We no longer must sell our products internationally at a heavy discount through a master distributor. We have eliminated one or two levels of intermediate markup in each country."

Incremental opportunities:

"We have an opportunity for incremental revenue increases at a given business level through the sale of software and service and by offering our equipment for lease as well as purchase. We intend to establish leasing programs very selectively only in markets where we think we can increase market share without imposing an unacceptable drain on working capital."

Multi-national price:

"These benefits do not come without a price. We have invested more than \$100 million in this area, which is indicative of our commitment to develop a strong multi-national presence."

Currency fluctuations:

"We are no longer protected from the risks of foreign

currency fluctuations, although we expect to manage these risks with minimal impact on earnings. You read frequently these days where some companies are blaming poor financial results on foreign exchange losses. So you may wonder how we are going to avoid doing the same thing. We don't know any magic; we are just doing some things differently. You can elect to manage foreign currency risks to minimize impact on earnings or to minimize cash flow. We have elected to minimize impact on our bottom line in order to continue to earn the right to grow."

Delayed revenue and cash flow:

"Dealing directly with our international customers instead of with a single master distributor introduces some delays in revenue and in cash flow. These delays have been felt most severely as we made this transition during the first quarter of fiscal 1982.

"Datapoint has shown consistent growth in quarterly revenue for some time. Maintaining that positive gradient is an important objective for us."

Revenue by quarter—80 & 81:

"Despite the magnitude of changes taking place at Datapoint and the continuing difficulties and uncertainties in the economies of many nations, we expect our revenue to show positive quarter-to-quarter growth during fiscal 1982 and beyond.

"We still expect the second quarter to be above the fourth quarter of fiscal 1981 and to mark a return to the positive gradient of earnings per share that has been in place for the past 39 consecutive quarters."

The bottom line:

"A very important point for you to remember is that Datapoint is being managed to produce positive gradients in the bottom line. We are undergoing significant changes and our business is becoming ever more complex. This might cause discontinuities and changes in margin percentages and in selected operating parameters.

"But we expect to continue reporting meaningful increases in earnings per share on an annual basis as we have in the past."

Managing:

"The key word here is 'managing.' We have worked hard to develop the management resources we needed to handle our rapid growth. I believe we now have in place the management team that can take us to the one billion dollar level and beyond. We recently realigned some officer responsibilities and expanded the Office of the President."

Strengths for the future:

"We are operating with a cohesive strategy that shapes the company and its product line.

"As I mentioned earlier, the breadth of our product line is unmatched, in my opinion.

"We have demonstrated leadership in key growth markets.

"We have the management and organization in place to handle rapid growth.

"We are in a strong financial position to fund this growth.

"We have demonstrated sound stewardship and follow conservative, but aggressive practices in managing the resources at our disposal."



News Briefs

Printer Conversion Kits Available

Kits are now available for converting a 9214 parallel belt printer to a 9297 serial belt printer and vice versa. These kits are available on a purchase-only basis.

The addition of these kits to the Datapoint product offering will allow customers who are upgrading from 5500, 1800, or 3800 systems to 8600 systems to utilize their existing printer on the new system. Significant savings are realized by the customer who can continue to use currently owned equipment for his upgrade instead of having to purchase an additional printer.

	Kit Model	U.S. Price	Maintenance
Field-installed parallel to serial conversion kit (9214 to 9297)	0593	\$800	No additional maintenance (\$115.)
Field-installed serial to parallel conversion kit (9297 to 9214)	0594	\$625	No additional maintenance (\$115.)

The lead time for these kits is approximately 12 weeks.

*Debbie Pena
Ext. 7151*

Acoustic Cabinet a Plus

One of the most attractive options of the Datapoint band printer is the acoustic cabinet. It dramatically reduces noise levels, making it suitable for use in an office environment.

The acoustic cabinet is a factory-installed option only, and currently there are no plans to offer it as a field installed option. When placing orders for your customers, make sure that they understand that if the band printer is purchased without the acoustic cabinet it *cannot* be field upgraded at a later date.

*Debbie Pena
Ext. 7151*

Press Kits Available

Announcement materials from the recent product announcements in New York are now available from Corporate Communications. The kits include press releases, flysheets, sample output packages, and brochures on the CBG system, the Laser Printer, and the Facsimile Interface.

Cost is \$10 per packet, plus mailing cost, charged to your cost center. Minimum order is 10 packets. Quantities are very limited. Order yours from Bonnie Cushman at ext. 7059.

8600 Disk Options

It is possible to upgrade an 8601 or 8602 to be a Data Resource Processor. In the case of the 8601, upgrade kit 0519 will make it an 8602. The 8601 does not accept any options except for the additional 128K memory.

Order model code 9312 for upgrading an 8602 to an 8620 disk configuration. The 9312 includes a Microbus Interface card, 9310 disk, and a 1401 diskette. Order model code 9306 for upgrading an 8602 to the 8630 disk configuration. The 930X includes the PIO card and the 9301.

These upgrade kits are RSP only. Please contact Product Marketing at ext. 7151 for pricing.

*Jim Whitehouse
Ext. 7151*

Class Offered for Datapoint OEMs, Reps

Sales Education now offers classes especially for Datapoint Representatives and OEMs.

A three-day Product Overview class covering Datapoint data processing products was taught in New York, San Mateo, San Antonio, Chicago, and Atlanta. A new pilot Sales Skills class was held last November in Houston. A Communications Management Products training class was held in San Antonio in early January.

Sales Education plans to offer more remote classes if demand warrants them. A minimal fee is charged to help defray expenses. Class size is limited to 16.

If you are interested in a particular class, please advise your branch marketing manager.

*Carol Muir
Ext. 7181*

8600 Field Installed Options

The U.S. Price Schedule pink sheets list a \$35. installation charge for 8600 options 0101 (additional 128K memory), 0103 (4 port MPCA), and 0104 (single channel MFCA). This is incorrect. No installation charges apply, since these options are factory installed only.

To order an upgrade to an existing 8600, use the following model codes:

Model Code	Description	Install*	Qty 1-3	Qty 4-10	Qty 11-25	Qty 26+
0602	128K, upgrade	\$35	3200	3040	2880	2720
0603	MPCA, upgrade	\$35	1200	1140	1080	1020
0604	MFCA, upgrade	\$35	1800	1710	1620	1530

*Minimum site charge applies.

U.S. pricing is as follows:

Model Code	Rent	Lease		
		1 Yr	2 Yr	3 Yr
0602	N/A	N/A	N/A	N/A
0603	\$50	35	33	30
0604	\$75	60	55	50

*Rafael Maymi
Ext. 7151*

Comdex Conference a Success

Comdex, the National Conference and Exposition for Independent Sales Organizations, is the largest show of its kind in the U.S. This year it was held Nov. 19-22 in Las Vegas. Datapoint was represented by home office and field personnel.

Datapoint received excellent exposure at the conference — OEMs, companies, and individuals alike expressed interest in our product line. Consequently, many new opportunities for third party business were generated.

Because the conference hosted more than 600 booths, Datapoint was also afforded a first-hand look at the competition.

If you have any questions regarding COMDEX, call OEM/Rep. Sales at ext. 7196 or 5181.

*Carol Muir
Ext. 7181*

Ordering the Tilt-Rotate Base

The optional tilt/rotate base for the 8220 and 8600 processors has a model code of 0612. Only a screwdriver is needed for installation, so your customer can install it himself.

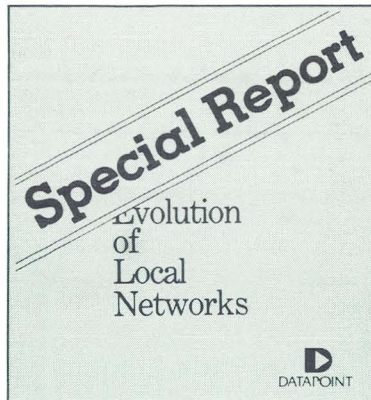
On the order form, the base is ordered on a separate line. U.S. pricing is as follows:

Model Code	Description	Qty 1-3	Qty 4-10	Qty 11-25	Qty 26+
0612	Tilt/Rotate Base	\$175	166	158	149
-----Lease-----					
		Rent	1 Yr	2 Yr	3 Yr
		\$11	9	8	7

*Rafael Maymi
Ext. 7151*

Local Network Report Reprints Available

Reprints of the Evolution of Local Networks special report published in the Sept. issue of DMN are available from Claudia McNutt at ext. 7542. Minimum order is 10 copies, which will be charged to your cost center. Quantity is limited, so order yours now.



Recruiting Poster Wins Award

Datapoint's FY 80-81 college recruiting poster "Shape Your Future with a Leader" (pictured at right) recently received the "Award of Merit" at the Southern Creativity Show. The Marketing Personnel Division worked with Thompson Recruiting and Advertising to design a poster attractive to the prospective college job seeker. This is the second year in a row that one of Marketing Personnel's posters has received an award in an advertising show.



Be a Name Dropper Again — Get \$1,000

"Be a Name Dropper" was Marketing Personnel's employee referral program for recruiting field sales and systems employees. Under the program, Datapoint employees referring a name for possible employment in systems or sales received an "I'm a Name Dropper" coffee mug. If the person referred was hired and completed 90 days with the company, the referring employee received \$1,000.

Running from June 1980-Nov. 1981, "Be a Name Dropper" was a very successful program. All in all, Marketing Personnel received more than 600 referrals. Of those, 208 were hired in field sales and systems positions.

Because of its success, Marketing Personnel is starting a new field referral program called "Be a Name Dropper Again." Coffee cups are not offered this time around, but the \$1,000 is still awarded for each new hire.

"Be a Name Dropper Again" is not to be confused with the Corporate Employee Referral Bonus Program described in Policy and Procedure IV-35.

Entry forms can be found in all branch and field offices or can be obtained through Marketing Personnel, MS M-13, ext. 5587.

*Kathy McCawley
Ext. 5587*

Customer Education

Arlington, Virginia

Mar 15 Introduction to Datapoint Programming
Apr 26 Introduction to Datapoint Programming

Boston, Massachusetts

Mar 1 DATASHARE
Apr 5 DATASHARE

Chicago, Illinois

Feb 1 Attached Resource Computer
Feb 8 Disk Concepts and Operations
Introduction to Datapoint Programming
Feb 22 DATASHARE
Word Processing Concepts and Operations
Mar 1 Resource Management System
Mar 8 Disk Concepts and Operations
Mar 15 Attached Resource Computer
Mar 22 DATASHARE
Word Processing Concepts and Operations
Mar 29 Introduction to Datapoint Programming
Apr 19 Disk Concepts and Operations
Advanced DATASHARE
Apr 26 DATASHARE

Denver, Colorado

Feb 8 Introduction to Datapoint Programming
Apr 5 DATASHARE

Detroit, Michigan

Mar 8 DATASHARE

New York, New York

Feb 1 Advanced DATASHARE
Feb 8 Basic LDCS
Resource Management System
Feb 22 Word Processing Concepts and Operations
DATASHARE
Mar 1 Disk Concepts and Operations
Mar 22 Word Processing Concepts and Operations
Mar 29 DATASHARE
Apr 12 Disk Concepts and Operations
Apr 19 Introduction to Datapoint Programming
Resource Management System

Philadelphia, Pennsylvania

Feb 1 DATASHARE
Mar 15 DATASHARE
Apr 19 DATASHARE

San Antonio, Texas

Feb 1 Disk Concepts and Operations
Resource Management System
DATASHARE
Electronic Message System
Word Processing Concepts and Operations
Feb 8 Introduction to Datapoint Programming
Disk Operating System
Attached Resource Computer
Word Processing Concepts and Operations
Feb 22 Disk Concepts and Operations
Disk Operating System
Resource Management System
Advanced DATASHARE
Word Processing Concepts and Operations
Automatic Call Distributor
Mar 1 DATASHARE
Word Processing Concepts and Operations
Mar 8 Introduction to Datapoint Programming
Disk Operating System
Resource Management System
Attached Resource Computer
Basic LDCS
Mar 15 Disk Concepts and Operations
Resource Management System

Word Processing Concepts and Operations
Advanced LDCS
Mar 22 DATASHARE
Electronic Message System
Mar 29 Disk Concepts and Operations
Resource Management System
Word Processing Concepts and Operations
Automatic Call Distributor
Apr 5 Introduction to Datapoint Programming
Attached Resource Computer
Basic Word Processing Concepts and Operations
Apr 12 Disk Concepts and Operations
Disk Operating System
Resource Management System
DATASHARE
Basic LDCS
Data Processing LDCS
Apr 19 Advanced W.P. Concepts and Operations
Apr 26 Introduction to Datapoint Programming
Resource Management System
Basic Word Processing Concepts and Operations
Electronic Message System
Advanced LDCS

San Mateo, California

Feb 1 Disk Concepts and Operations
Feb 22 Introduction to Datapoint Programming
Word Processing Concepts and Operations
Mar 1 Disk Concepts and Operations
Mar 8 Word Processing Concepts and Operations
Mar 15 Attached Resource Computer
Mar 22 Resource Management System
Introduction to Datapoint Programming
Mar 29 Disk Operating System
DATASHARE
Apr 19 DATASHARE
Basic Word Processing Concepts and Operations
Apr 26 Disk Concepts and Operations

Seattle, Washington

Mar 15 DATASHARE
Apr 5 Introduction to Datapoint Programming

Washington, D.C.

Feb 1 Word Processing Concepts and Operations
Mar 1 DATASHARE
Mar 8 Disk Concepts and Operations
Mar 15 Word Processing Concepts and Operations
Mar 22 Advanced DATASHARE
Mar 29 Word Processing Concepts and Operations
Apr 5 Resource Management System
Apr 19 Advanced DATASHARE
Apr 26 Basic Word Processing Concepts and Operations

Note: Effective immediately, registrations for Customer Education classes in New York and Boston will be taken by Customer Education in San Antonio at 512-699-7039. Please call San Antonio for information regarding classes in these areas or to register for any classes.

The current Word Processing class will be divided into two separate courses starting in April 1982.

The Basic Word Processing class introduces students with little or no previous word processing background (either with Datapoint or another vendor) to the basic operations and concepts of word processing. With further preparation, a student will become proficient in the use of the word processing system.

The primary objective of the Advanced Word Processing class is to introduce students who have completed Datapoint's Basic Word Processing class to more advanced concepts and operations of word processing. With further preparation, a student may instruct other personnel in the use of the word processing system.

Refurb Equipment

Model Code	Description	Qty	Price	Maint.	Install
Processors					
1108	Cassette 1100 Processor, 8K Memory		2200	86	150
2226	2200 Processor, 16K Memory		2400	113	150
5548	5500 Processor, 48K Memory		10000	178	200
Options					
5508	8K Memory Upgrade Kit for 5500		900		165
9020	Regulator, 1 KVA Constant Voltage, 120 VAC		500		25
Diskette Systems					
1131	Diskette 1130 Processor, 1 drive		2875	74	165
1132	Diskette 1130 Processor, 2 drives		3162	96	165
1133	Diskette 1130 Processor, 3 drives		3450	117	165
1134	Diskette 1130 Processor, 4 drives		3737	141	165
1174	Diskette 1170 Processor, 4 drives		5500	149	185
1500 Systems					
1532	32K Total Memory, Two Diskette Drives (.5MB Total)		5100	68	200
1536	60K Total Memory, Two Diskette Drives (.5MB Total)		5550	78	200
1571	Cluster Controller for 3670 Enhanced Datashare Terminal		5306	68	250
1514	1500, 60K Total Memory, .25MB Single Diskette Drive, 9310 Cartridge Disk Drive		12890	147	250
1515	1500, 60K Total Memory, .25MB Single Diskette Drive, 9320 Cartridge Disk Drive		13223	155	250
1592	1532, 9621, 9443 Cable		7050	110	200
1596	1536, 9621, 9443 Cable		7538	120	200
1543	Diskette Expansion Module		2850	33	165
1800 Systems					
1802	60K 1MB		8230	125	200
1842	Diskette Drive Expansion Model		3112	39	165
Disk Systems					
4220	2226 Processor, 5MB (two 2.5MB Diablo Drives, 1 fixed, 1 removable cartridge), Controller, Multiport Interface, D/S Software, Documentation		9000	217	500
4520	5500 Processor, 5MB Storage (two 2.5MB Diablo Drives, 1 fixed, 1 removable cartridge), Controller, Multiport Interface, D/S Software, Documentation		17750	254	650
4523	5500 Processor, 5MB Storage (two 2.5MB Diablo Disks) Controller, D/S Software, Documentation	1-3 4-10 11§	16500 15250 14250	236	620
4530	5500 Processor, 48K Dual Disk and Controller, 20MB Multiport Comm Adaptor DATASHARE Software and Documentation	1-3 4-10 11-25 26§	24000 22500 21000 19500	347	775
4533	5500 Processor, 48K Dual Disk and Controller, 20MB, DATASHARE Software and Documentation	1-3 4-10 11-25 26§	22750 21250 19750 18250	329	755
4540	5500 Processor, 50MB Storage, Controller, Multiport Interface, D/S Software and Documentation		29450	544	1000
4543	5500 Processor, 50MB Disk Storage, Controller, D/S Software and Documentation		28200	526	970
4620	6600 Processor, 5MB Disk Storage, Controller, Multiport Interface, D/S Software and Documentation	1-3 4-10 11-25 26§	19950 18700 17700 16200	267	700
4623	6600 Processor, 5MB Disk Storage, Controller, D/S Software, Documentation	1-3 4-10 11-25 26§	18700 17450 16450 15000	249	670
4640	6600 Processor, 50MB Disk Storage, Controller, D/S Software, Documentation		36500	628	1000

Model Code	Description	Qty	Price	Maint.	Install
4644	6600 Processor, 50MB Disk Storage, Controller, RIM, D/S Software Documentation		36500	623	1000
4643	6600 Processor, 50MB Disk Storage, Controller, D/S Software and Documentation		35250	610	970
4740	256K Processor, 50MB Disk Storage, Controller 50MB, Multiport, D/S Software and Documentation		39100	644	1000
4745	ARC File Processor 256K Dual Disk and Controller, 50MB, RIM Adaptor, ARC Software and Documentation		39100	639	1000
Bundled Share/Print					
4640/9280	4640 and 300 LPM Printer*		41500	768	1000
4644/9280	4644 and 300 LPM Printer*		41500	763	1000
4643/9280	4643 and 300 LPM Printer*		40250	750	970
4540/9280	4540 and 300 LPM Printer*		34450	684	1000
4543/9280	4543 and 300 LPM Printer*		33200	666	970
Print Pac I	5556 RIM and (3) 300 LPM Printers*		23000	613	675
Print Pac II	5556 RIM and (3) 600 LPM Printers*		38450	793	675
4520/9232	4520 and 80 CPS printer*		18500	301	650
1532/9231	1500/32K Total Memory, 80 cps Freedom Printer*		5800	115	200
1536/9231	1500/60K Total Memory 80 cps Freedom Printer*		6450	125	200
1802/9602	1800 and 45 CPS Printer*		12506	170	200
Media Storage					
9381	Console Diskette Controller 1 drive		2150	37	165
9382	Console Diskette Controller 2 drives		2450	57	165
9383	Console Diskette Controller 3 drives		2750	76	165
9384	Console Diskette Controller 4 drives		3050	96	165
9385	Freestanding Diskette Controller, 1 drive		2150	37	165
9386	Freestanding Diskette Controller, 2 drive		2450	57	165
9387	Freestanding Diskette Controller, 3 drives		2750	76	165
9388	Freestanding Diskette Controller, 4 drives		3050	96	165
9389	Diskette Extension		300		165
Cartridge Disks					
9350	Console Front-load 2.5MB Controller/Drive		2975	93	165
9351	Freestanding Front-load 2.5MB Controller/Drive		2975	93	165
9354	2.5MB Extension, Removable Cartridge (no controller)		2400	57	125
9356	2.5MB Extension, Fixed Cartridge		2400	57	125
9357	Console Front-load 2.5 MB Controller/Drive 4K Buffer Memory		3075	86	175
9358	Freestanding Front-load 2.5MB Controller/Drive, 4K Buffer Memory		3075	86	175
9369	5MB Dual Disk Extension		4000	79	165
Mass Storage Disk Controller and Drives					
9370	Freestanding 25MB Mass Storage Drive/Controller		9950	205	250
9371	25MB Mass Storage Drive Extension		7750	155	165
9373	Console 25MB Mass Storage Drive/Controller		9950	205	250
300 LPM Drum Printers					
9280	300 LPM 64 character		8500	140	175
9281	300 LPM 96 character		9000	155	175
600 LPM Drum Printers					
9260	600 LPM 64 character		13000	200	175
9261	600 LPM 96 character		13500	220	175
Servo Printers					
9250	Console Servo Printer		1595	75	165
9251	Freestanding Servo Printer		1595	75	165

Model Code	Description	Qty	Price	Maint.	Install
Belt Printers					
9291	60 LPM printer, Parallel Interface		1995	64	165
9292	60 LPM printer, Serial Interface		1995	64	165
9294	120 LPM printer, Parallel Interface		1995	90	165
9212	115-240 LPM Printer, 132 Column		6500	98	165
Freedom Printers					
9231/9232	80 CPS Freedom Printer Serial or Parallel		1750	47	165
9235/9236	160 CPS Freedom Printer Serial or Parallel		1995	65	165
1090	Option, Serial Interface upgrade		200		165
1091	Option, Parallel Interface upgrade		600		165
Datastation Terminals					
3601	Datastation Terminal		995	23	35
3670	Enhanced DATASHARE Terminal for 3270		2756	30	50
Comm Adaptors					
3400	Acoustic Coupler		225	16	25
9401	Comm Adaptor		450	18	25
9402	Comm Adaptor		450	18	25
9404	Comm Adaptor		450	14	25
9408	DATASHARE Modem, 1200 baud transmit, 150 baud receive full duplex		450	18	25
9409	DATASHARE Modem, 1200 baud receive, 150 baud transmit full duplex		450	18	25

Model Code	Description	Qty	Price	Maint.	Install
9420	Comm Adaptor		450	14	25
9453	Comm Adaptor		450	14	25
9455	(001) Comm Adaptor		450	24	50
9460	Comm Adaptor		450	18	50
9450	Comm Adaptor		450	14	50
Tapes					
9551	9 Track 800 BPI 8.5 in. Reel		4500	77	165
9556	9 Track 800 BPI 10.5 in. Reel		8231	95	175
9558	7 Track 556/800 BPI 10.5 in. Reel		8231	95	175
9581	9 Track 1600 BPI 8.5 in. Reel		7500	97	175
9583	9 Track 1600 BPI 10.5 in. Reel		9000	91	175
Card Readers					
9504	Card Reader, 80 Col, 300 CPM, 115 VAC		5000	55	75
9505	Power Option for 9504, 230 VAC		N/C		
Multistation Adaptors					
9470	4 Port Multistation Adaptors		863	10	75
9471	8 Port Multistation Adaptors		1238	15	100

Prices are U.S. Dollars

***SPECIAL ORDERING INFORMATION** — Those offerings that are bundled need to be ordered as individual line items on Order Entry Form No. 60719.
 Example: Print Pac I should be ordered as follows: Model R5556/9280/9483 on those product description lines with R5556/9483 Qty 1 each, R9280 Qty 3 appearing as individual entries and the bundled price will appear on the second product entry line.

Systems Education

Name of Class	Dates
DATABUS/DATASHARE (5 days)	Jan 4-8, Feb 22-26, Apr 26-30, June 7-11
DOS/ARC (5 days)	Feb 8-12, Feb 22-26, Apr 26-30, June 7-11
D.P. Orientation (10 days)	Mar 1-12, May 3-14, June 14-25
CMP Orientation (10 days)	Mar 1-12, May 3-14, June 14-25
Systems Orientation (5 days)	Mar 15-19, May 17-21, June 28-July 2
IEOS (5 days)	Mar 1-5, May 3-7
EMS/Message Services (5 days)	Feb 8-12 (Detroit), Mar 8-12, May 10-14
Advanced DOS Systems (10 days)	Mar 22-Apr 2, May 17-28
Data Communications 1 (10 days)	Feb 1-12, Mar 15-26, June 7-18
RMS1 - Transition (5 days)	Jan 18-22 (San Mateo), Feb 1-5, Mar 8-12, Mar 22-26, May 3-7, May 17-21
RMS2 - DB/DS/COBOL/Comm (5 days)	Jan 11-15, Feb 8-12, Apr 5-9, Apr 19-23, June 7-11, June 21-25

Name of Class	Dates
RMS3 - Assembler (5 days)	Feb 22-26, Mar 29-Apr 2, May 24-28
RMS4 - Data Comm (5 days)	May 10-14
DOS Assembler 1 (5 days)	Mar 1-5, June 21-25
DOS Assembler 2 (5 days)	Apr 26-30, June 28-July 2
DBMS1 (5 days)	June 14-18
CMIS (5 days)	Apr 19-23 (Detroit), June 28-July 2
CASH/CDR (5 days)	Mar 1-5, May 24-28
Traffic Engineering (5 days)	Jan 18-22, Mar 15-19, Apr 26-30, June 7-11
ISX Systems	Mar 22-26, May 3-7, June 14-18
CBG (5 days)	Apr 5-9, June 7-11, June 28-July 2
Channel Adapter (5 days)	Mar 15-19, June 21-25
ASE Group 1 - Phase 3 (10 days)	Jan 18-29
ASE Group 2 - Phase 2 (15 days)	Jan 11-29
ASE Group 2 - Phase 3 (10 days)	Mar 29-Apr 9
ASE Group 3 - Phase 1 (15 days)	Feb 22-Mar 12
ASE Group 3 - Phase 2 (15 days)	May 3-21
ASE Group 4 - Phase 1 (15 days)	May 10-28



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DATAPPOINT

Datapoint Marketing News
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Datapoint Marketing News is the monthly newsletter for Datapoint employees in the fields of marketing, sales, and support. Our goal is to convey vital marketing and product information throughout the organization.

Editor: Kathleen Murphy