

SOURCE DATA

THE DATAPOINT SYSTEMS NEWSLETTER

No. 11

February/March 1981

ARC™ — The Framework for a New Era



First, some background on the relationship of RMS™ to ARC: The recent announcement by Datapoint® of “systems for growth in the eighties” emphasized what is new: new processor, new operating system, new features and their associated benefits, new and better approaches to the hard work of business data processing. However, to a significant degree, Datapoint builds the new upon the old and makes it not only possible, but easy, to conserve investments made in the old even as the new is acquired.

RMS (the Resource Management System™ software introduced to you last issue) is itself a classic example: an operating system supported by both old and new processors, and able to coexist with its ancestor in the same local network — an accomplishment unique in the industry. As we consider the RMS/8800 products, it is clear that while they are new products in the sense of only recently becoming available, they are manifestations of the same central unifying philosophy that is the essence of Datapoint: optimized use of resources, affordable incremental growth, and upward compatibility, in short, ARC (Attached Resource Computer™).

RMS is a step forward in the ARC continuum: RMS software with the 3800, 6000, 6600, and 8800 processors is a system to take full advantage of local networking architecture (ARC) now and in the future. The 8800 as a processor and RMS as an operating system both have long, but finite, lifespans. ARC, on the other hand, is an architecture and a philosophy, and as such, is timeless. ARC enables DOS users to grow beyond the limits of stand-alone systems without

continued...

Resource Management System Update

You were introduced to Datapoint's new Resource Management System in the last issue of SOURCE DATA. Here is an update on the product.

Education

RMS software is available to customers who send at least one representative to a Datapoint Customer Education RMS class. The charge for the one-week class is \$600. Classes are scheduled in San Antonio for March 16, April 13 and 27 and in New York, March 9 and April 13. (See the Customer Education Course Schedule in this issue for class information and enrollment details.) Software should be ordered prior to class attendance but will be shipped only after actual attendance is confirmed. *continued...*

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DATA PROCESSING

ARC continued...

imposing software-related economic penalty and makes possible the coexistence of DOS and RMS in the same local network, thus minimizing the impact of transition. The generalized resource sharing and evolution capability of RMS/ARC conserve present benefits and add the flexibility and power necessary for success in the eighties.

What does it mean to have shared logic inherent in the operating system?

Multitasking capabilities of RMS are descended from DATASHARE® which was the only major Datapoint product that really conferred the benefits of shared logic. Now RMS provides for shared logic at the operating system level and enables low-cost non-intelligent terminals to offer a degree of multifunctionality formerly possible only at the price of an attached processor. The key point is that the software mechanism for sharing the processor's logic is in the operating system itself; future software products can take advantage of the capability.

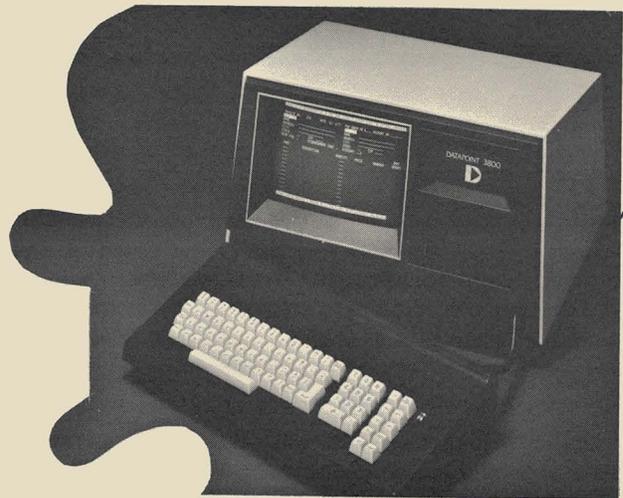
Similarly, RMS resource sharing descends from techniques pioneered in the DOS/ARC systems. In a DOS/ARC system, disk resources are fully sharable and some other resources, such as printers, are indirectly sharable; in both cases, the sharing is made possible by local networking.

In the RMS environment, all resources are fully sharable. Networking is part of the operating system itself and is not limited to the local scale: remote networking can and will be added in the months to come. Moreover, when remote networking is added, the difference between it and local networking will be transparent to users and their applications programs.

An RMS workstation can do operating system utilities and interactive timesharing, and in the future, industry-standard languages (including program development in those languages), RJE and data communications, word processing, and electronic messages, all from the same keyboard. It will be possible to expand a single system from one to hundreds of these workstations, all having access to billions of bytes of common data, as needed, without reprogramming or retraining, and be sure that total system failure will never occur.

The ARC concept makes all that possible.

How does the 3800 fit into the picture?



Given the nature of RMS-based systems, and especially in light of their ability to support full-function 8200 workstations (which are low-cost, and which can be physically remote), a natural question to ask is "When should I use a 3800?"

The 3800 is an ARC building block: With the advent of RMS, Datapoint offers a truly wide range of ARC building blocks from the 3800s on the small end of the spectrum through the 6600-class processors to the mighty 8800s. The wider the spectrum of building blocks, the more choices you have, the more likely it becomes that a building block of "just the right size" will be available. The wide spectrum of RMS/ARC building blocks means that you have a much better chance of choosing a configuration that meets your requirements cost-effectively.

Clearly, the 3800-class processors are the smaller-scale building blocks. The new versions testify to the

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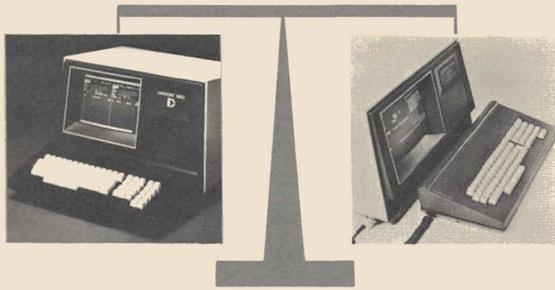
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Dated Material: Techniques or facilities described in each issue are accurate as of the publication date; however, computing changes rapidly so please rely on up-to-date permanent documentation such as user's guides for details of software or equipment features.

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ARC continued...

ongoing life of the 3800 series: the 3815 (96K, external RIM, I/O Bus and ICA) and the 3817 (96K, internal RIM, no I/O Bus or ICA).



Compare the 3800 to the 8200: If the 8200 can do today much of what the 3800 can do, and if in the future the 8200 will do even more, why isn't the 3800 being eclipsed by the 8200? An important consideration is that 8200s are "parasitic". As with any "shared logic" approach, they must be attached to a processor and they tend to "use up" their host, in terms of their requirements for memory and processor cycles. There is always a limit on the number of 8200 workstations which can be attached to a given 6600 or 8800, and the host is always the single point-of-failure for all of them. In short, the economies of shared logic are gained at the expense of increased dependency.

If the host is a 6600, which has only one central processor, then every 8200 added tends to slow the system down. The 8800, with its multiple processors (the central processor, one or more peripheral processors, and intelligent interface modules for peripheral control) is appreciably less susceptible than a 6600 but not totally immune.

The 3800 on the other hand, brings its own memory and its own processing power with it, and, provided

that disk management resources are adequate, can be added with little overall effect on system performance. Hence, for example, if you have an RMS/ARC system and need to make it support a new function, and none of the existing nodes can accommodate the addition of another workstation, you could clip on a 3800, thus adding processing power and memory along with the capability to accomplish the new task.

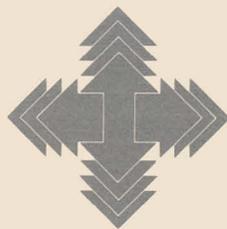
The general principle is that the limits on the number of 3800s we can attach to a host processor are much more remote than the limits on attaching 8200s.

When do you choose a 3800? Here are circumstances in which a 3800 attached processor might be a better choice than an 8200 workstation:

- When in-board processing power is cost effective, as, for example, when there is need to do program development without slowing down a production system, or to run a job which cannot be allowed to slow down under conditions of heavy system loading.
- When a user station is required to run *both DOS and RMS* in a hybrid ARC.
- When a 6600 or 8800 node, is "full" and more work needs to be done, but not enough to justify another 6600 or 8800.

When considering the trade-offs between 3800 and 8200, consider the following:

8200 Workstations	3800 Attached Processors
Totally dependent on host	Requires disk resource only
Local or remote (via phone line)	Local (always attaches to IPB)
Multifunctional	Multifunctional
Number limited by host memory and/or processing power	Number virtually unlimited



RMS Update continued...

Software Releases

RMS software has been released under the following model codes:

Model	Description
9830	RMS Nuclei and utilities; RMS User's Guide Volumes I-III, RMS CHAIN User's Guide
9831	RMS DATABUS® and DBCMP; RMS DATABUS User's Guide
9832	RMS DATASHARE and DBCMP; RMS DATASHARE User's Guide, RMS DATABUS User's Guide
9835	combination of 9830 and 9832
9827	RMS COBOL; COBOL User's Guide

This software may be ordered immediately. Remember, shipment depends on your attendance at the RMS class. (See the article on Software Ordering in this issue for new procedures.)

Documentation

The documentation available for the RMS operating system now includes the following guides. (Appropriate documents are automatically included with an order for the corresponding software as noted above.)

Document	Title	Price
50592	Concepts of RMS — Simplified User's Guide	\$ 4.00
50545	User's Guides Volumes I-III and CHAIN	61.00
50553	Volume I: RMS Introduction and Overview	4.00
50554	Volume II: Basic Utilities	24.50
50555	Volume III: Advanced Utilities	22.50
50586	RMS CHAIN User's Guide	10.00
50589	RMS DATABUS User's Guide	25.00
50590	RMS DATASHARE User's Guide	4.00
50540	RMS COBOL User's Guide	25.00

continued...

Software Maintenance

An entirely new system has been established to provide software maintenance to RMS customers. When updates are available, each RMS customer paying maintenance will receive written notification. You then send your maintenance disk pack to San Antonio where any portion of RMS software eligible for maintenance is updated. The maintenance pack is then returned to you. The customer is responsible for choosing the shipping vendor and paying shipping charges both ways. We recommend that you purchase at least one extra disk pack to serve as a maintenance

pack. Shipping cases specifically designed for Datapoint disk packs will be available from Software Services. The case fits all sizes of disk on which RMS is released and also has room for us to send along appropriate documentation. (This RMS advance notification update service does NOT apply to DOS which will be handled as before.)

(See also the article on ARC in this issue for some insight into the Resource Management System as part of Datapoint's processing architecture.)

3270 Support for DATASHARE 8200 Users



Basic IBM 3270 emulation support is now extended to DATASHARE 8200 terminals in an ARC environment. The new software offers access to interactive applications on mainframes supporting the 3270 family terminals (e.g., IBM, Amdahl, IteI) without requiring a 3800 processor for the users' workstation.

The physical communication is accomplished by an ARC communications processor running the previously released IBM 3270 emulator — AC3271B. Thus, the communications characteristics remain unchanged.

Features

The new software is composed of two parts. A DATASHARE program, DS3270, emulates the basic features of an IBM 3277 Model 2 (24-line) terminal, and an "ACALL" module, ACAL3270, assists the efficiency of DS3270 operation. In combination, DS3270 and ACAL3270 provide both locally attached and remotely connected 8200 users with the following 3270 terminal features:

- Field tabbing — forward/reverse
- Field edit criteria — protected/nonprotected, no/normal display, alpha-numeric/numeric-only
- Program function keys (PF1-PF12)
- Program attention keys (PA1-PA3)
- Clear
- Enter
- Erase input
- Erase to end-of-field
- Uppercase display

No special keyboard is required for the 8200s since the current function keys (F1-F5) are combined with other keys to invoke these 3270 functions. (Note that the 3600s cannot execute this software since they lack function keys.)

Advantages

DS3270/ACAL3270 allows you to obtain a hard copy of the 8200's screen contents at any time during 3270 interaction. This printout can be directed to

either the DATASHARE system printer or a serial printer attached to the requesting 8200. The 8200's screen image can even be transferred to disk for later analysis, printing, or recall.

Since DS3270 is released in well-documented source form (DATABUS), its characteristics are easily modified. A built-in HELP function documents current operation characteristics.

The capabilities of DS3270/ACAL3270 satisfy the requirements of many users desiring 3270 access from dispersed systems; in particular, users requiring access to business applications such as order entry, accounts payable, accounts receivable, and inventory control. The software allows you to have the extensive local processing capabilities of DATASHARE and access to large databases and applications on the mainframe from the same low-cost terminal.

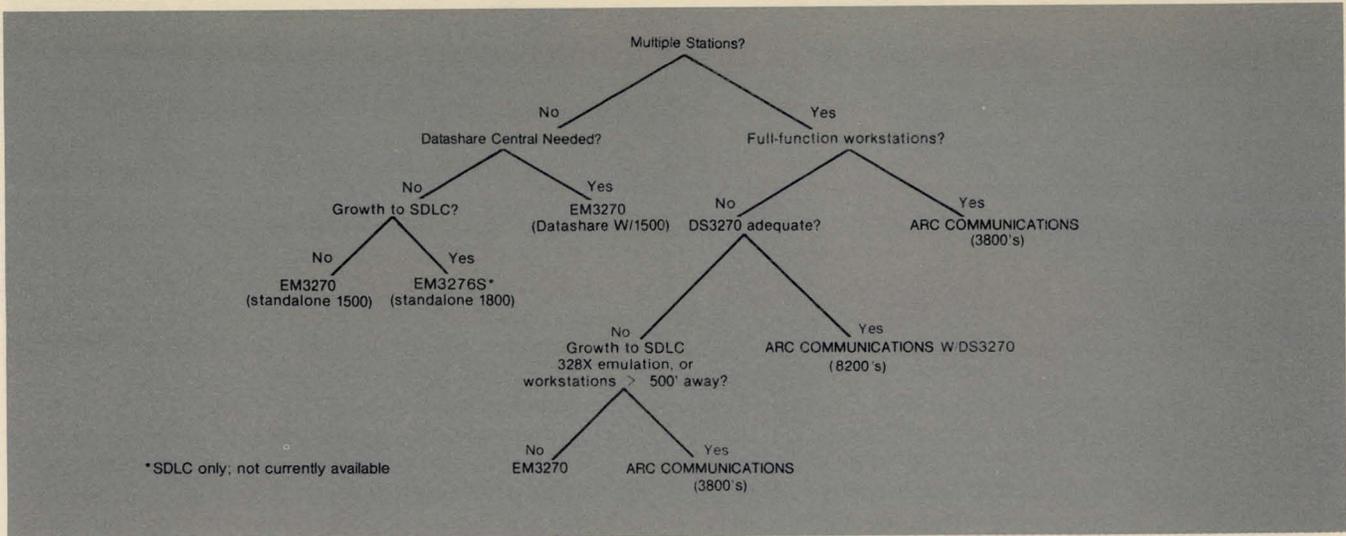
Selection of Proper Software

Hardware characteristics of the 8200, software constraints of DATABUS and other considerations prevented implementation of some 3270 terminal features including:

- Free-form cursor movement
- Lowercase character display
- Insert mode operation
- Light pen simulation
- Test request
- Delete
- Field mark

For example, users of 3270 full-screen editors such as TSO could not use DS3270/ACAL3270. This application and others requiring full-feature 3270 emulation should be approached with EM3270 (3670 terminals) or ARC communication and emulation software AC3271B/AP3270 (3800 terminals). To aid you in determining the proper 3270 product to meet your needs, the following decision diagram may be helpful.

continued...



Performance

What about DATASHARE system performance when DS3270/ACAL3270 is in use? Several benchmarks have been conducted on the software in San Antonio and several sites are running it in real-world environments. Both benchmarks and test experience indicate that DS3270/ACAL3270 performance compares favorably to the "real thing", and has no adverse effect on general DATASHARE system performance.

Stand-Alone Uses

What about the stand-alone user who needs the 3270 emulation capability? You can add basic 3270 functions to your standalone DATASHARE system by adding a 6000 processor with a 9481 communications adaptor and a RIM (resource interface module 9483) for your DATASHARE system. The 6000 processor acts as the communications processor in what is in effect a two-processor ARC system. DATASHARE acts as an applications processor with all disk resources attached locally, and access to the mainframe via the communications processor.

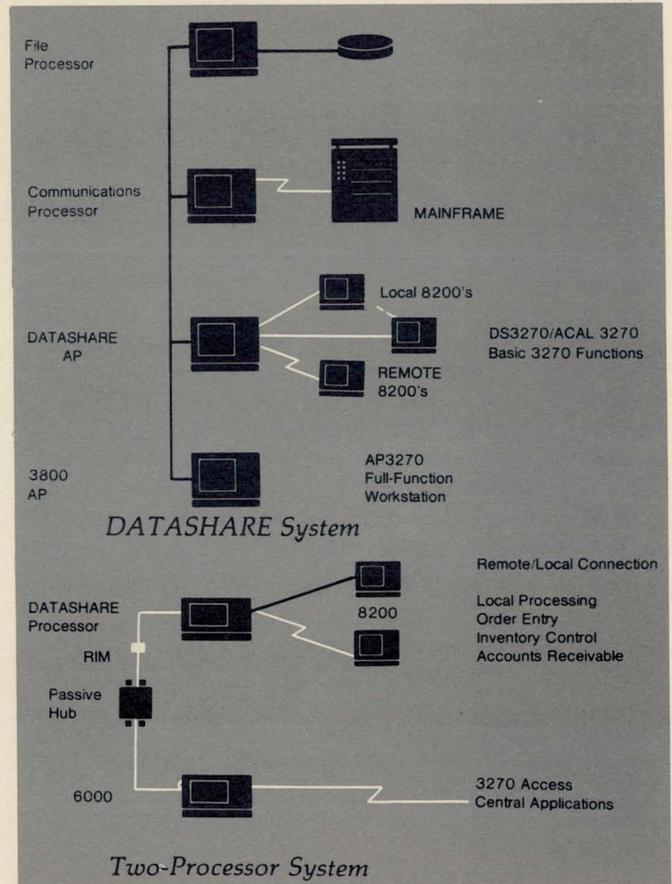
System Impact

While some degradation of the DATASHARE operation can be expected due to the introduction of ARC overhead, the use of local disk avoids the creation of a poor performance ARC system. In fact, the impact can be tested prior to installation of the communications processor by simply executing the command "MOUNT" prior to establishing DATASHARE on a stand-alone system. Note that the communications processor is initialized by executing ARC file processor software on the DATASHARE processor prior to establishing the DATASHARE interpreter. This process need only take place when the communications processor is powered up.

Two Processor Systems

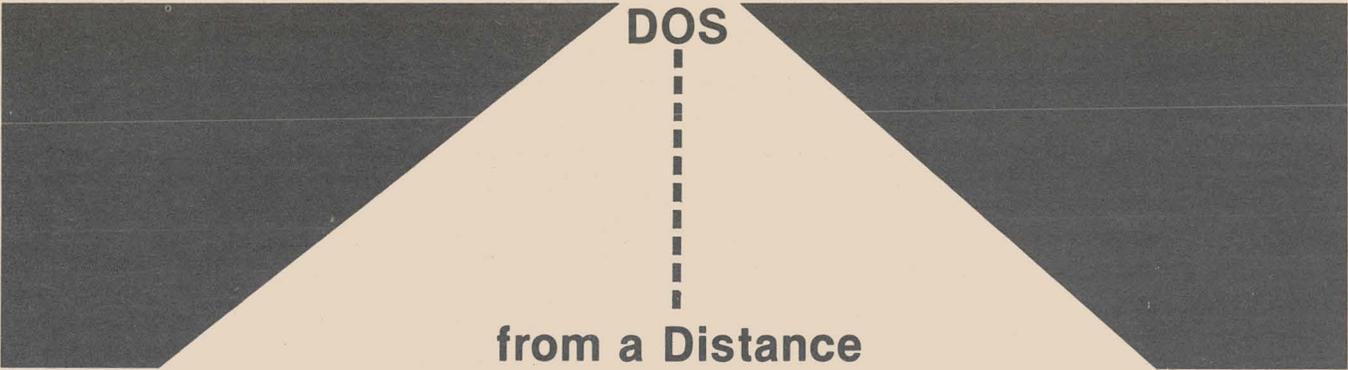
Normally, the communications processor will be active even when the DATASHARE processor is "rolled-out," performing non-DATASHARE tasks such as compilations or sorts. A passive hub (9485) may be

used to connect the two processors as shown in the second diagram below:



Model Codes

DS3270	DATABUS 3270 Emulator	20784 Cassette \$15
		40448 DDD \$15
		50602 User's Guide \$2.50
ACAL3270	ACALL 3270 Module	20780 Cassette \$15
		40449 DDD \$15
		50598 User's Guide \$1.50



DOS

from a Distance

Remote Maintenance DOS (REMDOS) was introduced as a tool for programmers and analysts having to support the operation and production of one or more Datapoint DOS systems at remote sites. REMDOS allows a "master" processor to control the keyboard and display functions of a "slave" processor when the two are connected on a synchronous communications network.

REMDOS is easily installed from cassette or diskette onto any DOS.A/.B/.C/.D/.E/.G system version 2.4 or greater with a 5500 compatible processor. The software package consists of two command files and two corresponding relocatable files — one for the master site and one for the slave site. A synchronous communications adapter (9481, 9404 or ICA for 3800/1800) and a Bell compatible synchronous modem (like Datapoint's 9478/9479) are needed at both sites along with some form of disk storage (stand-alone or ARC supported) and a minimum of 24K bytes of user memory.

After loading RDOSMAST or RDOSSLAV at the appropriate site, the operator is prompted for the communications adapter type. The program then loads into high memory the appropriate MASTER/SLAVE module from the /REL file according to the communications adapter used. Each program prepares the communications line and enters "WAITING FOR DATA" mode until the phone is dialed and answered and communications are established.

When the connection is made, the slave processor has a DO NOT DISTURB sign displayed on its screen and the master processor displays the DOS sign-on of the slave. Any commands issued at the master console are applied to and carried out at the slave site processor and disk. Nearly all of the DOS utilities and a few extras such as FASTSORT, LIBSYS and CHAINPLS can be executed from the master site. (Release 1.1 does not currently support EDIT or DUMP.)

The master processor is still capable of accessing the local disk by preceding any command line with an ampersand (&). In addition to the local and remote commands, REMDOS will recognize and respond to a small set of its own commands, identified by a leading dollar sign (\$).

\$OFF

Terminates REMDOS. The modem drops the communication line and the DOS operating system is reloaded.

\$OFF;R

Terminates the master. Returns the slave to "Waiting for Data Mode" so master may reestablish contact.

\$OFF command

Terminates REMDOS. Master returns to DOS and slave initiates execution of a program or utility invoked by "command".

\$DISPLAY message

Message from master to be displayed on slave console.

\$ASK message

Question from master to be displayed on slave console. The slave waits 3 minutes for a response before returning control to the master.

\$SEND filename

Transmits specified file from local master disk to disk at the slave site. (Object and text files are both supported.)

\$SEND filename outfile

Specifies a new name for the file at the slave site.

\$SEND filename;O

Specifies that the new file should overwrite an existing file.

\$RECV filename

Transmits file from slave site to master. Same forms may be used as with SEND.

The value of REMDOS to the support programmer or analyst should be apparent by now. To give an example, assume that John Smith is the only programmer for twelve DATASHARE installations in his company. When he writes a new DATABUS program for the system, modifies an existing program or gets a new release of software from his Datapoint System Engineer, he must install the new software at each of the twelve sites. To mail cassettes of the new program(s) is time-consuming and risky in assuring correct upgrade procedures. So John simply connects himself to each of the sites, one at a time, using REMDOS. He transmits the new software to the slave site with the \$SEND command. Then he updates the DATASHARE library at the slave site using LIBSYS under REMDOS. He can also replace bad software and do general cleanup and disk checking from the

continued...

DOS from a Distance continued...

master site. When he is finished he can even restart the DATASHARE interpreter using the \$OFF [command] directive. Then he goes on to connect with his next installation and do the upgrading/maintenance work there. (For routine maintenance, the \$OFF [command] feature would allow the master to initiate maintenance (via a CHAIN file), without incurring continuing telephone charges.)

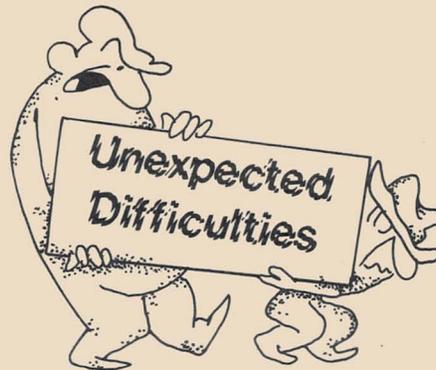
In this example, REMDOS has saved John and his company precious time and money. The ease of execution adds to the attraction of REMDOS, since normal operation is the same as that of DOS. The reader can probably think of many applications for REMDOS in his own installation, and the different uses of this pro-

duct are too many to number. It should be noted that REMDOS is intended as a tool for programmers and not as a working system itself since it supports only a small number of utilities. But the user must surely agree that it is a valuable tool at a relatively low cost, and many Datapoint users have discovered just how useful it can be.

REMDOS model codes are as follow:

20648	One cassette \$15
20649	One diskette \$15
40412	One double density diskette \$15
50465	REMDOS User's Guide \$1.50

LIBRARY Version 2.1 Released



FOR SURE! By now many of you have discovered that the LIBRARY utility touted in SOURCE DATA Issue #8 failed to materialize. Unexpected difficulties were encountered subsequent to publication which prevented the release of the software. That's the BAD news, now for the GOOD news. Version 2 of LIBRARY provides substantial enhancements over Version 1 and is available for distribution at the time of this writing.

How do I order LIBRARY 2.1?

The model codes remain unchanged from Version 1; specifically:

20745	Two cassettes \$30
20746	One single density diskette for 1500 \$15
40431	One single sided double density diskette for 1800 \$15
50525	LIBRARY Version 2 User's Guide \$1.50

Are all LIBRARY Version 1 features retained?

Yes. The functional capabilities described in SOURCE DATA Issue #8 are present; however, the screen during execution will differ and some functions are invoked by different names. For example, the

MAKE and CLEANUP functions of 1.1 are replaced by BUILD and PACKUP respectively in 2.1.

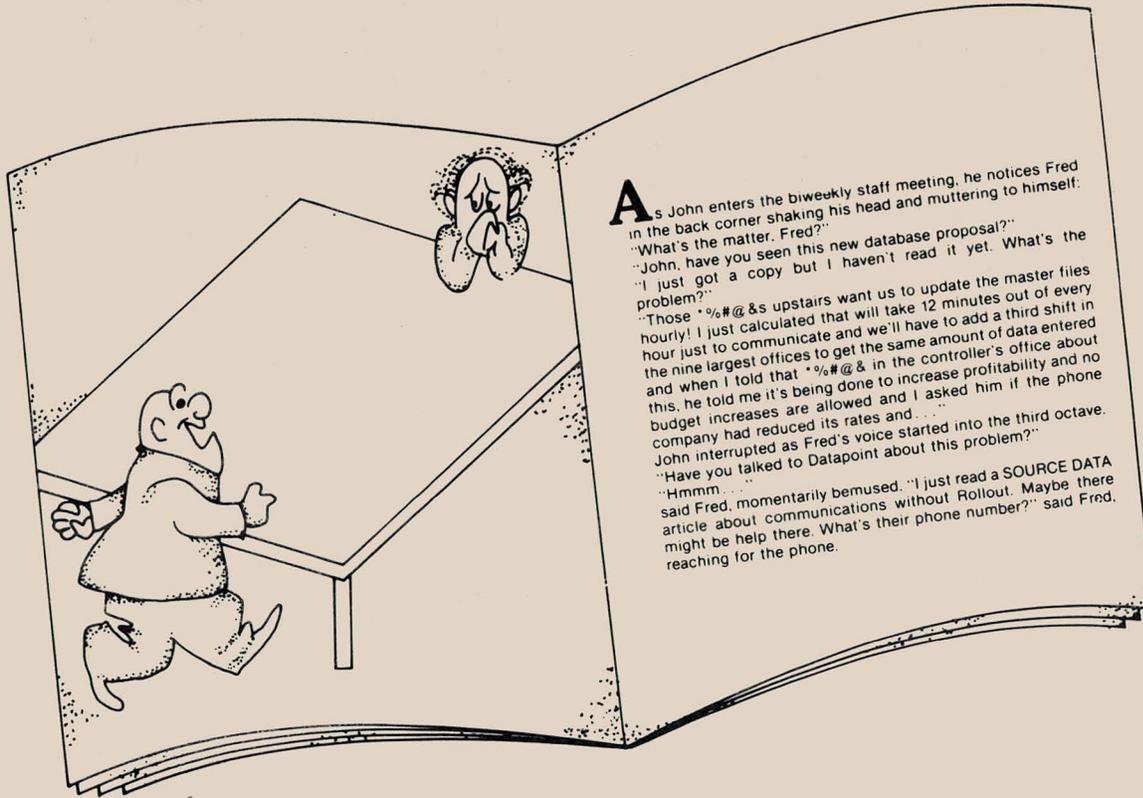
So what's improved in Version 2?

LIBRARY FILE LOCKS: Several software locks have been included to provide security against damage caused by power failure or accidental "re-booting" and to allow multiple ARC users to concurrently access the same library. The locks include a Packup lock, Write lock, and Modify lock arrangement similar to those used in Datapoint word processing libraries.

EXPANDED OUTPUT OPTIONS: Version 2 not only can LIST to the printer, screen or a disk text file, but can output to a disk print file or even submit output directly to an ARC "unspool" site for printing. Even better, the output from commands like CATALOG, SEARCH and LOCATE can be captured and output in exactly the same way! All these commands provide optional line numbers for easy reference within library members.

This utility should really ease the pressure on DOS file name use, and we believe you'll agree it's been worth the wait.

MULTILINK™ to the Rescue



While a bit extreme, Fred's dilemma is encountered more frequently than might be expected. Management is growing increasingly aware of the value of "fresh" data. Thus, the need to overlap communications and data entry grows and Datapoint is ready with its family of MULTILINK products. For Fred and his IBM 370/158, we offer ML3780 and its fraternal twin ML378018.

ML3780, like all of its siblings, is a module linked into DATASHARE to provide a communications facility. It performs the basic handshaking and packaging tasks. Because ML3780 is a part of DATASHARE, a DATABUS program must be written. Fortunately Datapoint has written a sample program which it sends along with the MULTILINK module.

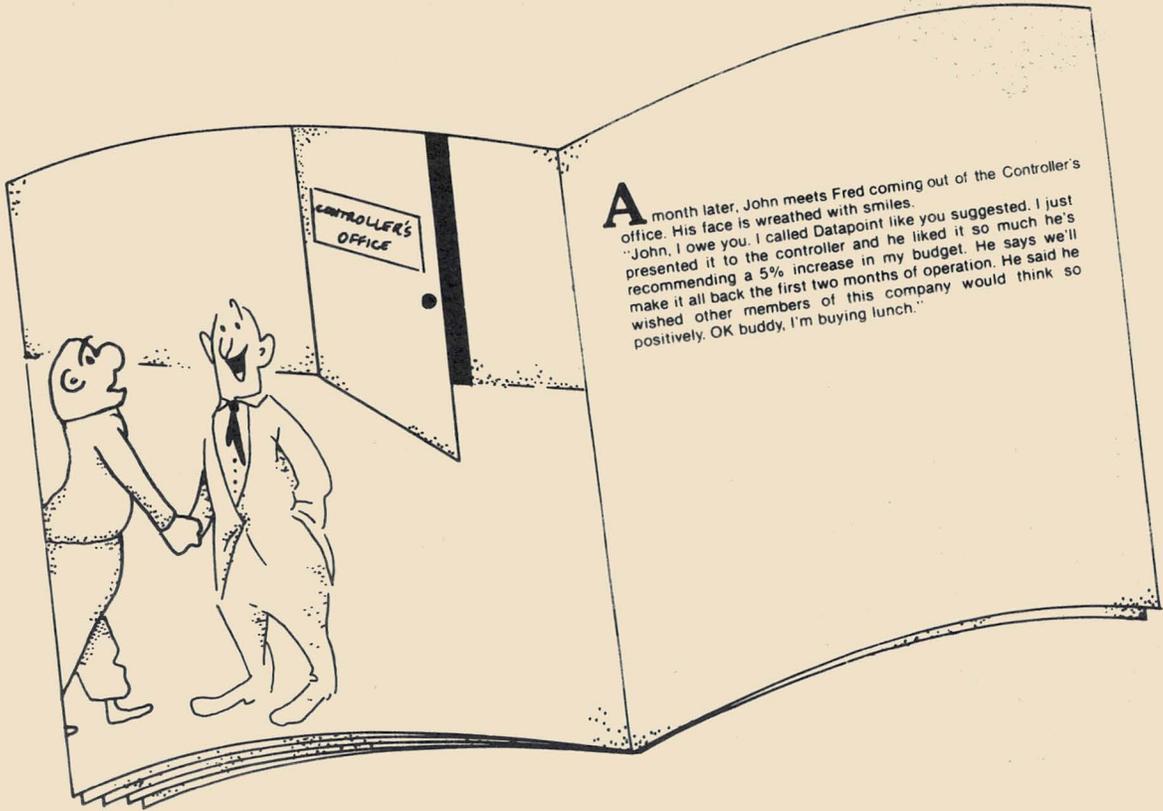
ML3780 is not quite a full blown 3780. It doesn't support transparency. Device selection sequences are accepted and dropped. The receive record size is fixed at 133 characters with the first byte reserved for carriage control. Data is received into three DATABUS variables with the carriage control byte isolated into the first.

On the transmit side, you have more control over your data — being able to determine the length of a record by the size of the variables sent and the length of a block by the length of the send list.

Fred was also worried about costs: what happens to his systems? Data entry proceeds as normal with one key operator starting communications. Later Fred may choose to modify his program to trigger on call from the IBM 370/158. Fred's phone bill will increase because of the frequency and increased duration of the calls since, depending on line speed and the efficiency of the user's program. ML3780 may be slower than MTE55 (Multi terminal emulator). While an exact estimate is not possible, judicious use of his LDCS™ (Long Distance Control System — see a related article in this issue) and his headquarters ARC should be able to control these costs very well. Fred has eliminated the other major uncontrolled cost — extra personnel. There would be no hardware costs unless Fred felt he needed to add memory to his 6600s or additional ports to the LDCS. A small development project to modify the DATABUS program would easily fit in his current budget.

continued...

MULTILINK to the Rescue continued...



A month later, John meets Fred coming out of the Controller's office. His face is wreathed with smiles. "John, I owe you. I called Datapoint like you suggested. I just presented it to the controller and he liked it so much he's recommending a 5% increase in my budget. He says we'll make it all back the first two months of operation. He said he wished other members of this company would think so positively. OK buddy, I'm buying lunch."

MULTILINK was discussed in SOURCE DATA Issue #9. That article is a general explanation of capabilities and includes a table of available

MULTILINK line handlers (of which ML3780 is just one).

com.mu.ni.ca.tions - a system (as of telephones) for communicating, the technology of the transmission of information (as by telecommunications, or the computer), exchange of information, an act or instance of transmitting, a process by which information is exchanged between individuals through a common system of symbols, signs or behavior...



INTEGRATED ELECTRONIC OFFICE

Message Services Joins Word Processing on 1800/3800

IEOS/MS Version 1.2.2 is now released. This new software gives you the enhanced word processing capabilities of IEOS 1.2 along with the convenience of message services. The Integrated Electronic Office™ Station now has the ability to communicate to and from a remote environment. Stand-alone 1800 processors and 3800 processors on ARC systems, with appropriate communications equipment, may communicate with a predefined Network Controller on an ARC system. Likewise, a Network Controller may communicate with properly equipped and defined 1800 and 3800 remote installations.

Software Compatibility

IEOS/MS requires EMS™ Version 1.2.1 to take advantage of the remote dial-up capability.

A communications definition file (COM/DEF) must be created by the user. This file must include the telephone number and identification of the Network Controller, as well as the mailstop code for the workstation. The file format is as follows:

Line Description

- 1 Telephone number of the Network Controller (0-9,*,#, and P are accepted; all other characters ignored)
- 2 Identification of the Network Controller (up to 7 characters, left justified)
- 3 Identification of the workstation (mailstop code)

The mailstop code for the remote workstation must be DEFINED at the Network Controller.

Hardware Requirements

EMS Version 1.2.1 uses synchronous link conventions for remote communications, thus data transfer rates of 1200, 2400, and 4800 baud can be supported on switched communications links. Any user-selected modem (Datapoint's 9478/9479 for example) should be compatible with the RS-232 interface as supported by the 9481 MFCA (multi-function communication adapter).

The physical/electrical characteristics of this interface are supported by the use of a Datapoint 9481 communications adapter in bisynchronous mode at the

network controller in association with one of the following modems (or their equivalent):

Bell 212A modem

- 1200 baud
- switched link

Bell 201C modem

- 2400 baud
- switched link

Bell 208B modem

- 4800 baud
- switched link

The modem in turn requires:

Bell 801A or 801C Automatic Calling Unit (or equivalent, supporting RS-366/V.25) for pulse or tone dialing by the 9481 MFCA

Use of a Data Access Arrangement (DAA) or Registered Protective Circuitry (RPC) if not integrated into the selected modem

Direct connection to the phone line if no DAA or RPC is required (modem is FCC-registered for direct connect)

IEOS/MS-1800 must be implemented with a minimum hardware configuration of:

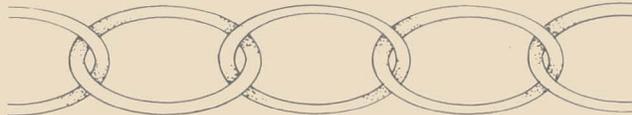
- 1) a two-diskette system or,
- 2) a 9320 cartridge disk system, and
- 3) a modem of the same type as on the network controller

IEOS/MS-3800 must be implemented on a 3810 or 3820 in an ARC environment and must have a modem of the same type as on the network controller. All associated libraries and files must reside in that local environment.

Installation Procedures

IEOS/MS Version 1.2.2 may be installed in an ARC environment with 3800 processors and/or 1800 processors. It may also be installed on stand-alone 1800 processors. Refer to the IEOS/MS Installation Guide.

continued...



Message Services continued...

On 3800 Processors: IEOS/MS is delivered on 10, 25, and 60MB disk packs. The following files are included:

File Name	Description
IEOS/CMD	IEOS program
PSCLIO01/REL	I/O routines Version B.A.C.
NAMES/LIB	Sample IEOS library with COMDEF, USERNAME, and GROUPS documents
SEND/DEF	Sample send definition file
IEOS/RFM	IEOS software release form

In addition to these files, complete DOS.D 2.6 system files and utilities are included.

On 1800 Processors: IEOS/MS is delivered on two double density diskettes along with a standard DOS.G diskette. The IEOS1 diskette contains word processing commands for creation and modification of documents. The IEOS2 diskette contains message services commands for sending and receiving messages.

IEOS1 DISKETTE

File Name	Description
IEOS1/CMD	IEOS for word processing
PSCLIO01/REL	I/O routines Version B.A.C.
MAKIEOSC/CHN	Chainfile to build IEOS on 9320 disk
IEOS/RFM	IEOS software release form
INIT/ABS	Initialization module for 9320 disk

IEOS2 DISKETTE

File Name	Description
IEOS2/CMD	IEOS for message services
PSCLIO01/REL	I/O routines Version B.A.C.
NAMES/LIB	Sample IEOS library with COMDEF, USERNAME, and GROUPS documents
SEND/DEF	Sample send definition file

In addition, each diskette has an abbreviated version of UTILITY/SYS including BACKUP, CAT, COPY, DOSGEN, FILES, FREE, KILL, LIST, NAME, PUTIPL, PUTVOLID, and REPAIR. Each also contains DOS.G 2.4 system files, CHAIN/CMD, and CHAIN/OV1.

The additional complete DOS.G 2.4 diskette contains the utilities above as well as ABTONOFF, AP, AUTO, BLOCKEDIT, BUILD, CHANGE, DECODE, DUMP, EDIT18, ENCODE, FIX, MANUAL, REFORMAT, SAPP, and SUR.

The following commands are available on the IEOS diskettes:

IEOS1 DISKETTE COMMANDS	IEOS2 DISKETTE COMMANDS
DOCUMENT PREPARATION	
AUTOTYPE CREATE MODIFY PRINT SCAN	[none]
LIBRARY SERVICES	
ADD CATALOG DELETE EXTRACT LOCATE NAME OPEN PACKUP SEARCH UNLOCK	DELETE OPEN UNLOCK
MESSAGE SERVICES	
FILE FLAG REVIEW TAG	CONFIRM FILE RESEND REVIEW SEND STANDBY
AUXILIARY	
DOS	DOS

To install IEOS on a 9320 cartridge disk system, a chainfile is provided on the IEOS1 diskette. Use COPYFILE to copy MAKIEOSC/CHN from the IEOS1 diskette onto a DOSGENed 9320 disk. When executed, this chainfile combines IEOS1/CMD and IEOS2/CMD into one IEOS/CMD file on the 9320 disk. It also copies PSCLIO01/REL and IEOS/RFM onto the disk.

Software, media, and documentation are listed below:

Item	Model code	Description
Software	9826	EMS Network Controller
Document	50520	Network Controller System Guide \$4
Software	9823	IEOS/MS-3800
Media	20653	10MB Disk \$180
	20654	25MD Disk \$385
	20655	60MB Disk \$505
Software	9824	IEOS/MS-1800
Media	20651	3 Double Density Diskettes \$45
Document	50502	IEOS Simplified User's Guide \$10
	50523	Message Services Simplified User's Guide \$10
	50547	IEOS Supervisor's User's Guide \$10
	60997	IEOS/MS Installation Guide \$2.50
	50432	DOS User's Guide \$25

Pertinent to 1800 cartridge disk system only:

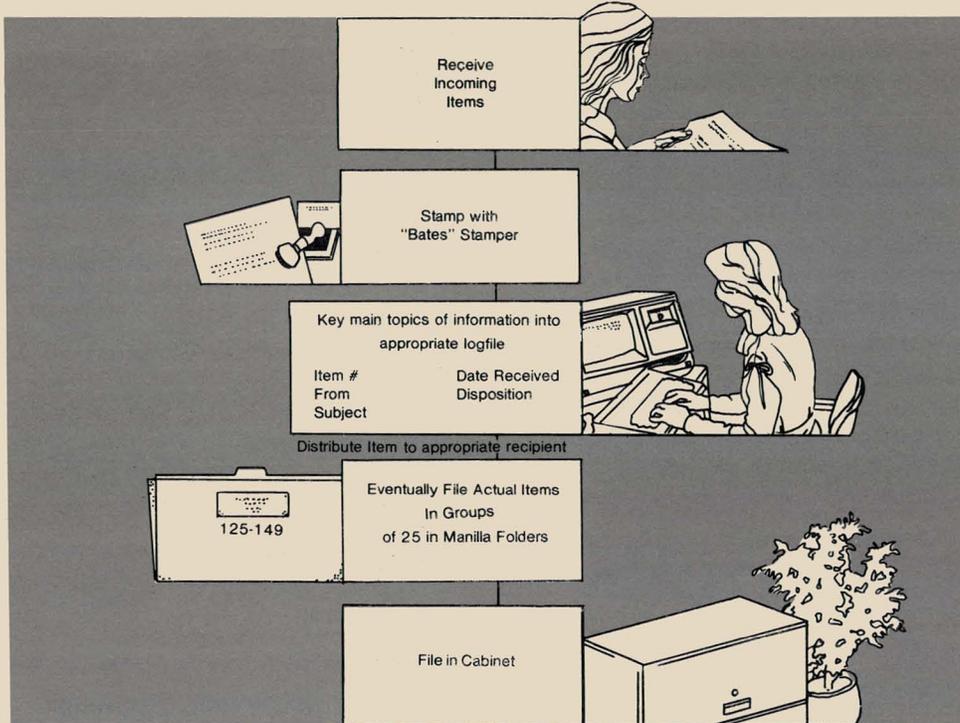
Document	50500	9320 Addendum to DOS User's Guide \$2.50
	50232	COPYFILE User's Guide \$1
	50498	LOAD18 User's Guide \$1.50

A Correspondence Log File in Word Processing

Those of you who are using IEOS word processing may find it handy as a tool for logging correspondence. This article describes how one IEOS WP user is logging her manager's incoming mail. As you read through the description of the technique, keep in mind your needs and the peculiarities of your office environment. The beauty of the idea is that it's founded on basic WP techniques and can be easily adapted to work under your circumstances since it doesn't require any special expertise or extra programming.

The correspondence log is used to handle all incoming mail — memos, reports, brochures, solicitations,

anything. The log (on the system rather than on paper) notes the item number, source, subject, date received, and disposition of an item. The item number is a unique number given to every piece of mail received and is stamped on with a number machine at the same time the item is stamped received. The subject information is taken from the item itself. Key words or phrases that best indicate what the mail is about are keyed into subject to facilitate later search capabilities. Since the log can be easily modified, the subject can be refined or the distribution notes continued as the mail is dealt with by various readers.



The benefits of a correspondence log kept in IEOS are:

- A log on paper is replaced by a log in the system.
- The log in IEOS can be reviewed quickly, added to, modified, or archived.
- The log in IEOS can be *searched* by key words to locate all items from an individual, all correspondence on a certain subject, etc.
- The item number assigned provides a mechanism for filing all mail in a single simple numeric file.

- The search capability available for your log eliminates the need for duplicate cross reference files containing extra copies of an item.
- Archiving is made simple since the numeric system of filing has placed items in chronological order.
- Searching for all items on a given topic allows you to put together a topic file any time one is needed.

Look at a few lines in what might be a sample log:

ITEM#	FROM	SUBJECT	DATE	DISPOSITION
380	A. Johnson	3rd quarter plan	1/5/81	to Barnes 1/7, file 1/10
382	AWA	81 Management Courses	1/6/81	circ. 1/8
383	Datapoint	SOURCE DATA Issue 10	1/10/81	circ. 1/12
384	B. Stover	Personnel reviews due	1/10/81	calendar, file 1/10
385	M. Jenks	Accounting procedures petty cash fund	1/10/81	file 1/13
387	A. Johnson	Policy monthly reports format	1/10/81	
388	F. Benson	Widget 39 preliminary design	1/13/81	
389	B. Stover	Personnel vacation accumulation	1/14/81	
390	F. Benson	Widget 16 progress report	1/15/81	

A Correspondence Log File continued...

The variations on this are limitless. You can use this as a model or determine exactly what you want for your application. Just a note on how we've used the function keys:

F1 simply moves the cursor to the right end of the screen so you can get to the disposition information quickly.

F2 returns the cursor to the left.

F3, F4, and F5 contain the words "circ.", "file", and "calend.", respectively, to save repetitive typing of common disposition phrases.

Now that your format is established, you can begin typing in your log entries. (Don't forget to make your header line the first one.)

SEARCH CAPABILITIES

One primary advantage to having your correspondence log on the system will become apparent when you can search through it to find items from a particular person, on a selected topic, received on a certain date — any criteria you need to define.

Assuming you have opened the library LOGFILE, the command to initiate a search in an individual log (document) is this:

SEARCH DOCUMENT BAKER

The system will prompt you for the search key:

Enter the Key:

Suppose you wanted to display the log for all items that were circulating. Just respond "circ." and the system will display on your screen all the log items containing "circ." For example:

382 AMA 81 MANAGEMENT COURSES 1/6/81 CIRC. 1/8
383 DATAPOINT SOURCE DATA ISSUE 10/1/81 CIRC. 1/12

(Note the display is in all uppercase and spaces are compressed.) The system will again prompt for a key.

Here's another example of a search requested by you:

Enter the key:
personnel & reviews

Notice that you can combine several keys with ampersands to narrow your criteria. Here's the result:

384 B.STOVER PERSONNEL REVIEWS DUE 1/10/81 CALENDAR,FILE 1/10

If the system finds no lines containing your criteria, it will simply prompt you for a new key. When you have finished searching, just respond to the prompt by pressing the RETURN (ENTER) key.

You may also request that the result of the search be printed rather than displayed on the screen by specifying your output device as you would on a PRINT command.

You can search the *whole* library instead of one document by using the command SEARCH without specifying a document name.

FILE MAINTENANCE

For your own reference, or as a backup, you may want to print a copy of each correspondence log periodically (once a week?). That copy can serve as the master index to your numeric file.

Since you will be modifying the documents in your LOGFILE library frequently, remember to do a PACKUP regularly to keep unneeded disk space free. (Coordinate with other users of the logfile to schedule your packup.)

If your correspondence log gets many pages long, you could "archive" the older material into a separate archive log file. After opening the OLDLOG library (or whatever you choose to call it), and creating the documents for the individuals, you can CUT (and delete) a group of lines from the current logfile and PLACE them in the appropriate document in OLDLOG. That way, items are all still accessible (and searchable) but not taking up space in the file you access daily. In fact, the log could be put on cassettes on a month by month basis for convenient archival storage and backup.

Above all, we hope this article encourages you to try using WP in ways you might not have realized it could help you. Let us know how you adapt it — the Reader Reply Form is on the back cover.

Consult the Word Processing System Simplified User's Guide. Document No. 50502 for help with any of the commands mentioned — especially to learn about things like searching capabilities or use of function keys that may be new to you.



VOICE COMMUNICATIONS

Long Distance Control System / Automatic Call Distributor: The Communication Management Products

With the uncertainty of proposed rate filings, the continuing rewrite activity on the Communications Act of 1934, the vibrations of deregulation and resale of MTS/WATS, a communication management product is no longer an option, but a necessity.

Managers are being challenged more and more to **MANAGE** — to plan more precisely and with greater insight, to formally structure their approach for organizing, controlling and directing their area of responsibility.

For the Manager of Telecommunications, this challenge becomes increasingly complex. No longer can the emphasis be placed solely on cost reduction. Another area has surfaced — cost improvement or the ability to manage costs such that the increases caused by common carrier rate restructuring and regulatory change have minimal effect.

Organizing Telecommunications Management

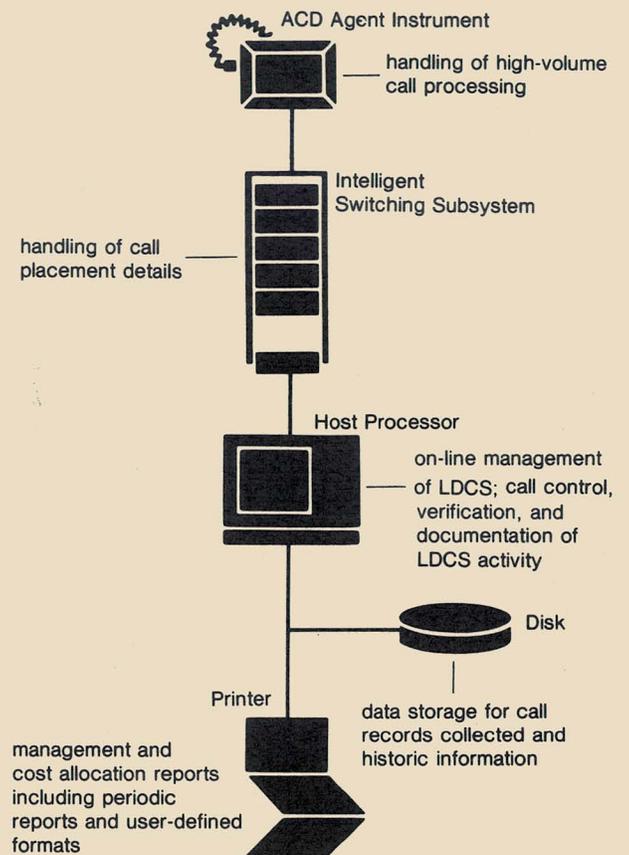
One's ability to deal with uncertainty and at the same time insure cost improvement is a reflection of how well a manager understands his total area of responsibility. Both the LDCS (Long Distance Control System) and the ACD™ (Automatic Call Distributor) have been designed around the concept of management responsibility. As reflected in the management reports produced by these products, the user defines his areas of need and is in turn provided with data about those areas. Additionally, historic data is available allowing for trend analysis or, where we have been so we can better project where we are going. This capability eases the stress of planning — the rational process of making decisions.

Given the use of the reports for planning, the manager needs to structure the organization of telecommunications system(s) with enough flexibility to meet change as necessary while at the same time maintaining a high level of accountability. Further, the system structure must be able to incorporate both standardization and specialization. Dynamic software within both systems (LDCS/ACD) provides that capability. Additionally, the system documentation provides indicators concerning individual use, requirements and performance giving high visibility to use productivity and facility use.

Finally, it is management's responsibility to focus on control and direction if cost improvement objectives are to be achieved.

Controlling the Functions

Control (or the activities and tasks designed to compel events to conform to plans) requires the ability to accurately verify and reconcile operational costs. Further, a cost accounting capability is needed to allocate cost at various levels within the total organization. Both the LDCS and ACD provide this capability and in so doing become the manager's resource for successfully achieving operational control over the largest portion of telecommunications expense — usage and the associated facilities. *continued...*



Components of LDCS/ACD Products

Directing the Function

To direct an activity means to take charge with authority. Through the combined capabilities of the LDCS and ACD, the manager is constantly aware of changes in volume and use of facilities. That documented awareness provides solid substantiation for recommended changes thus minimizing the risk factor involved in the decision-making process. No longer will the manager need to make decisions based on feelings or assumptions. The facts are now clarified in detail, making the choice of alternatives more straight forward.

Managers have historically been encumbered with so many everyday problems that they were unable to be the planners, leaders and organizers that they need to

be. LDCS and ACD capabilities will take care of most of the everyday problems allowing time for other important management responsibilities.

Learning More about the LDCS/ACD Products

To those of you who have one of these systems, we urge you to further explore its use as a management resource for your planning, organizing, staffing, control and direction of the telecommunications function. For those that have yet to include these capabilities within your systems approach, consider how you presently plan, organize, staff, control and direct within the telecommunications function. If, as you consider this, you feel the need to know more, call your local Datapoint office or Product Marketing in San Antonio (512) 699-5191.

Automatic Call Distributor Release 2.3.2



The Automatic Call Distributor software — INFOSWITCH® /ACD - has recently been further enhanced. SOURCE DATA Issue #9 contained an article about major changes in Version 2.3. Release of 2.3.2 brings the following additions:

• **ROUTE TABLE MODIFICATIONS** — Steps are allowed in the routing tables to enable lines to be queued for Delay Announcements when all are busy. This feature has a two-fold effect in that it will, in most cases, eliminate the necessity of configuring additional Delay Announcements for peak-hour operation and resolve the situation of calls being answered by music or silence.

• **AUTOMATIC ROUTE DIALING** — Automatic Dialing (Route Dialing) by the ACD to user-defined numbers through entries in the Route Tables. NOTE: This feature may require that line amplifiers be added to the system.

The questions and answers below clarify the status of the ACD product with this maintenance release.

Q: Is there a price associated with the installation of Version 2.3.2?

A: If your system was shipped prior to June 1, 1980, you will more than likely have to order a 4K RAM board needed to accommodate the additional micro features. The cost of the board is \$500 plus \$125 for installation. Normal media charges apply for disks and documentation. There is no direct charge for the software.

Q: Will the upgrade require that the system be down for any period?

A: Yes. It will be necessary for the system to be in "bypass" while off-line diagnostics are run and the

RAM board installed. The length of time the system will be in bypass depends on the configuration, size of database, etc. At worst, this period should not exceed two to four hours.

Q: What version of DOS will be needed?

A: If it is a 5MB stand-alone system, (.E) DOS 2.4.2 will be the supported version. If the system is an ARC or 20MB stand-alone, (.D) DOS 2.6 or 2.6.1 will be the supported version. In both cases the necessary version of DOS will be resident on the generation disk you receive.

Q: Will I receive a new User's Guide?

A: New User's Guides are available for you to order — one for stand-alone systems and another for ACDs that are part of ARC configurations.

Q: Is this upgrade optional?

A: No. The ACD is designed to have only one operating version. As in the past, Datapoint Software Support will maintain and support only this version once users have been offered the opportunity to upgrade their systems to Version 2.3.2. At that point, previous releases will no longer be supported.

Q: Can the customer perform the upgrade himself?

A: This is not recommended. Since there is additional hardware required, the update should be performed by Datapoint personnel.

Q: When can an upgrade take place?

A: Scheduling should be arranged through your local Datapoint office. The target date for all systems to be running under 2.3.2 is April 15, 1981, so it should be scheduled as soon as possible.

continued...

ACD Release continued...

ACD Media and Documentation:

Generation Disk (2.3.1)		
20748	2.5MB	\$125
20749	10MB	\$180
20767	25MB	\$385
20768	60MB	\$505
Update Cassette (2.3.2)		
20750	Host	\$15
20751	Micro	\$15

Update Descriptions		
60948	Host	\$2
60949	Micro	\$10
ACD 2.3 User's Guides		
50363	Stand-alone	\$25
50614	ARC	\$25
60575	Product Manual	\$10
60732	Instrument Operating Guide	\$2
60748	Supervisor's Instrument Guide	\$2.50
50511	MIS Report Guide	\$2.50

Software Ordering Procedures Described

Ordering procedures for all 4xxx, 6xxx, and 38xx series model codes have changed as Datapoint evolves into a two operating system company (RMS joining DOS).

The new ordering procedures are described in some detail here. Although your Datapoint local representative will handle the majority of your ordering for you, it helps if you know how the system works.

The familiar 4xxx series model codes will continue to represent the same hardware as always. What has changed is the software and the media. Now, you must specify exactly which software and media are desired on separate line items. Standard media and setup charges apply.

We've made this as easy as possible. New 98xx model codes group software and documentation for either DOS or RMS.

New Model	Contains
9833	DOS ARC AP and FP (DOS, utilities, ARC, ARCID, MOUNT, ARCSTAT, ARCBMAKE and all documentation)
9834	DOS DATASHARE (DOS, utilities, DATASHARE, DSGEN, DSTEXT and all documentation)
9835	RMS DATASHARE (RMS nuclei, utilities, DATASHARE, DBCMP and all documentation)

So, an order for a 4630 that used to be one line item now takes three line items, for example:

Model Code	Description
4630	DATASHARE hardware system configuration
9834	DOS DATASHARE software and documentation
20653	10MB disk pack

Put the order for the media on which software is to be shipped directly below the software. That is especially important if you are ordering a number of software model codes on different media (crucial for separating DOS and RMS). For example, you want

DOS ARC AP and FP, DOS DATASHARE, RMS DATASHARE, and RMS COBOL. The following order sequence tells Software Services that the DOS portion should be placed on one media and the RMS portion on another:

Model Code	Description
9833	DOS ARC AP and FP software and documentation
9834	DOS DATASHARE software and documentation
20655	60MB cartridge disk and setup
9835	RMS nuclei, utilities, DATASHARE, DBCMP software and documentation
9827	RMS COBOL software and documentation
20655	60MB cartridge and setup
50540	RMS COBOL documentation

Software License Considerations

All 98xx model codes may be ordered with or without a processor. All 98xx software license fees are \$1,500 (effective November 17, 1980). That license fee is waived on all orders that result in the shipment of any processor. The key is the processor. If the order causes a processor to be shipped, all one-time software license fees for 98xx software on the order are waived. If no processor is shipped, a \$1,500 one-time software license fee is charged for each 98xx model code.

Software Maintenance

Software maintenance fees are simplified with the new procedures. All monthly software maintenance fees are optional. Only if the fee is paid are you entitled to any maintenance releases or to upgrades; otherwise new software requires payment of a new license fee (subject to the considerations noted above). The monthly maintenance fee for any DOS 98xx model code is now \$10. Thus, the maintenance on an order for 9802 (COBOL), 9833 (DOS ARC) and 9834 (DOS DATASHARE) would be a total of \$30 per month. The monthly maintenance fee for any RMS 98xx model code is \$20. So, an order for 9835 (RMS nuclei and DATASHARE) and 9827 (RMS COBOL) would carry a software maintenance fee of \$40 per

continued...

Software Ordering continued...

month total. [Please see the RMS story in this issue for information on new RMS maintenance procedures.]

Transition to New Procedures

Backlogged 4xxx series system model code orders have been modified in San Antonio with new line items for 9833 and 9834 and the proper media as appropriate; however, new orders for software and media are required to conform with the new procedures. From now on, orders shipped will contain exactly what was ordered — if you forget the software and media, they

won't be included. On the other hand, if you don't want the software, you need not order it.

Partial Shipments

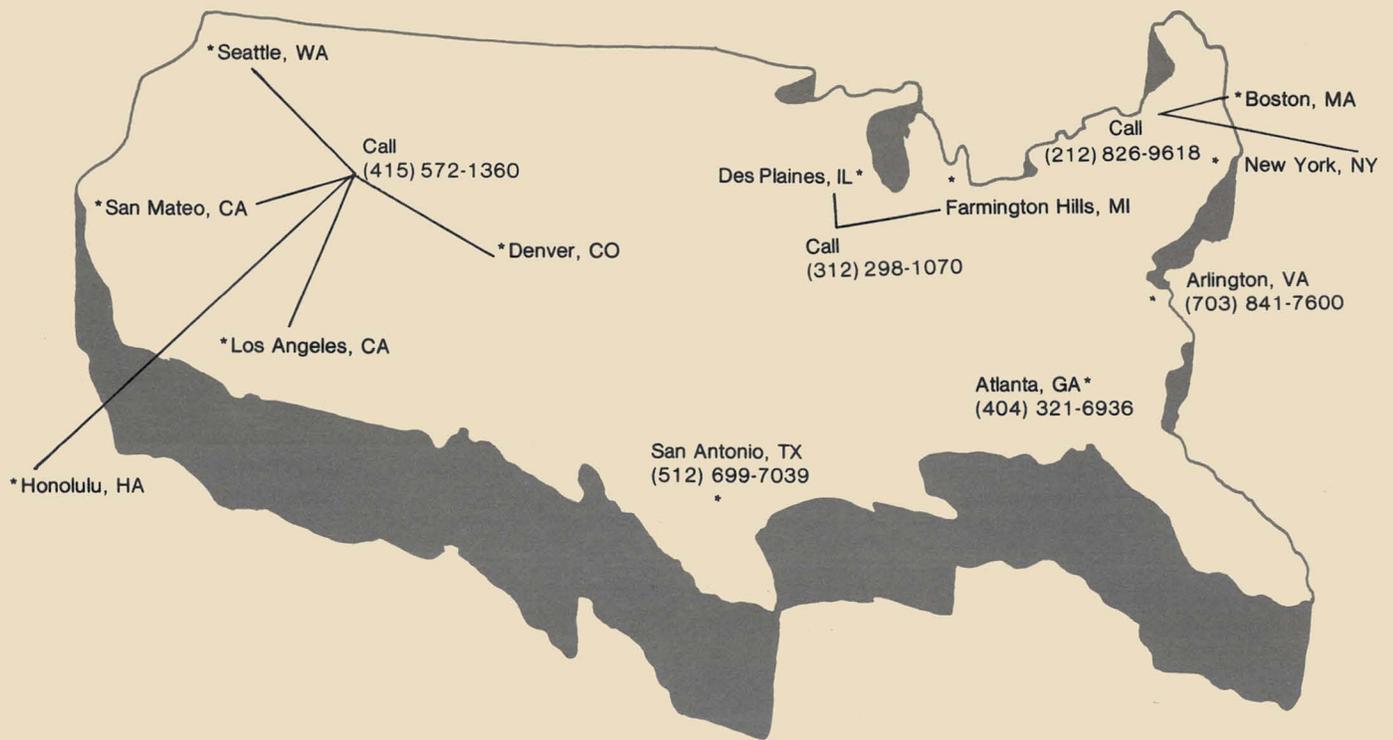
Software Services can send you the software and/or documentation portion of your order immediately without waiting for the equipment. The advantages of that include being able to study the documentation and use the software on other processors. [RMS software is shipped after you have attended the Customer Education classes in RMS — see the RMS story in this issue for details.]

Datapoint Customer Education Schedule March/April 1981

Course	Starting Dates											
	San Antonio	Honolulu	Seattle	San Mateo	Los Angeles	Denver	Farmington Hills	Des Plaines	Atlanta	Arlington	Boston	New York
Introduction to Datapoint Programming	4/6			4/13	3/9			3/9 4/27	4/20	4/6 4/27		3/30
Disk Concepts and Operations	3/9 3/30 3/23 4/6			3/30				3/23		3/23		3/16 4/6
Disk Operating System	4/6											4/20
Resource Management System (RMS)	3/16 4/13 4/27											3/9 4/13
DATASHARE	3/30 4/27 3/16 4/13 3/23 4/20	4/6	3/16 4/13	3/23 4/20	4/6	3/9	4/20	3/16 4/13	3/30	3/9 4/20	3/16 4/20	3/23 4/6 4/27
Advanced DATASHARE	4/6			4/27							3/16	
Attached Resource Computer (ARC)	3/16 4/20							3/30		4/13		3/23 4/27
Word Processing Concepts and Operation	3/23 4/6 4/27			3/9 4/6				4/20		3/30		3/30 4/13
Electronic Message System (EMS)	3/9 3/30 4/13											
Basic LDCS	3/23											

For details on Datapoint Customer Education, see their Course Catalog, Document No. 60269. To enroll, call the education center numbers indicated on the accompanying map.

DATAPOINT CUSTOMER EDUCATION CENTERS



Software Program Releases

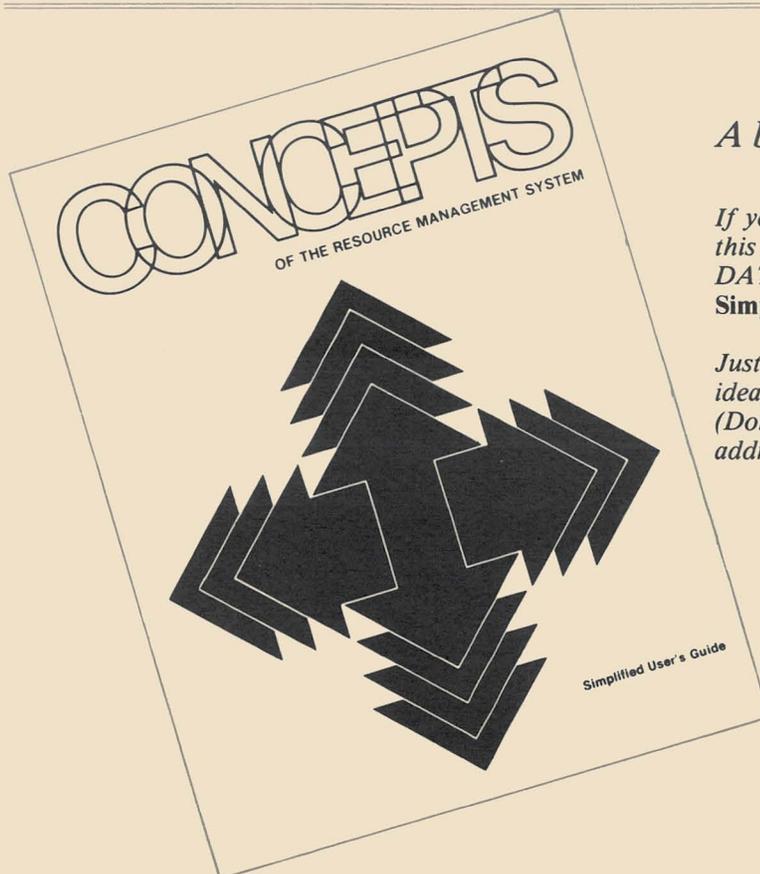
Note on software release dates: The date cited below as the release date is now the date software completes certification and approval. That change reflects an alteration to the Software Release Form, the "gold sheets." A RELEASE DATE is no longer given on the first page. Pertinent dates are given on the final page where sign-offs are shown.

<i>Name/Date</i>	<i>Description</i>	<i>Purpose</i>	<i>Model</i>	<i>Media*</i>
AC3271B 1.3 Released 14 Nov 80	ARC communications and emulation software for binary synchronous 3271 emulation. Model code 9817 automatically includes AP3270 1.1 (model code 20781)	Model code change Cancels AC3271B 1.2 and model code 20736	9817 50507-1 50506	2 cassettes User's Guide \$2.50 System's Guide \$1.50
ARC 1.6 Released 17 Sept 80	Attached Resource Computer System: Application Processor and File Processor software	Model code change Cancels ARC 1.4 and model code 9807	9801 20464 50299	1 DMF cassette 1 DDD 1 diskette User's Guide \$4.00

**Media charge — \$15.00 for one cassette, diskette, or double density diskette
\$125 for 2.5MB disk, \$180 for 10MB disk, \$385 for 25MB disk, \$505 for 60MB disk*

<i>Name/Date</i>	<i>Description</i>	<i>Purpose</i>	<i>Model</i>	<i>Media*</i>
DS3270 1.1 Released 30 Dec 80	DATABUS program to emulate IBM 3270 [See story this issue.]	New software package	50602 20784	User's Guide \$2.50 1 DMF Cassette
LIBRARY 2.1 Released 10 Feb 81	DOS text library maintenance utility with AIM	Adds new features cancels LIBRARY 1.1	50525 20745 20746 40431	User's Guide \$1.50 2 cassettes 1 diskette DDD
MLRUP 1.1 Released 8 Jan 81	DASP™ Remote user processor MULTILINK interface	New software package	50607 20791 20792 40451	User's Guide \$2.50 1 DMF Cassette 1 Diskette 1 DDD
RMS 1.1 Released 31 Dec 80	Resource Management System [See announcement story in issue 10 and article in this issue for software and documentation release details]	New software package	9830 9831 9832 9835 9827	RMS Nucleus, utilities RMS DATABUS and DBCMP RMS DATASHARE and DBCMP RMS Nucleus, utilities, DATASHARE RMS COBOL
S1800 3.1 Released 13 Jan 81	1800 software system	Adds new features Cancels S1800 2.2	40421 40445	4 DDD 2 Double-sided DDD

**Media charge — \$15.00 for one cassette, diskette, or double density diskette
\$125 for 2.5MB disk, \$180 for 10MB disk, \$385 for 25MB disk, \$505 for 60MB disk*



A book for your thoughts...

If you will use the Reader Reply Form at the back of this issue to give us some feedback on SOURCE DATA, we will send you a free copy of the RMS Simplified User's Guide.

Just let us know your thoughts about recent articles, ideas for future stories, or comments on our style. (Don't forget to include your name and complete address.)

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Contributors:

Thanks to field personnel Brandy Anthony and Phil Hammons for their help on his issue.

SOURCE DATA Advertising

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Liquor Distribution Diversified Data Services, Inc. offers a completely automated liquor distribution system for spirits, wine and beer. This system provides single or multi-company processing of all sales and distribution activities. (401) 434-4940. 871 Waterman Ave., East Providence, R.I. 02914.

MOONLIGHTERS: Part-time DATABUS/DATASHARE programmers needed for 6600/ARC applications in the L.A. area. Send brief note outlining your experience, availability, and phone numbers to P.D.M., P.O. Box 4609, Compton, CA 90220.

★ ★ ★ TERM - PRINT ★ ★ ★

Converts DATABUS programs which print on system printer (PRINT) to print on a CRT printer (DISPLAY). After conversion, operator has option at execution to print on system printer or CRT printer. \$475 Custom Computing, Inc., P.O. Box 1374 Kilgore, TX 75662 (214) 984-0639.

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- * Mail/Fix assets/Payroll/InSci front end/DS5 Library (/TXT) sys.

1500/1800 SOFTWARE

Announcing MSSPFP - a post facto payroll system. An ideal companion to our general ledger system. Diskette based. \$500.

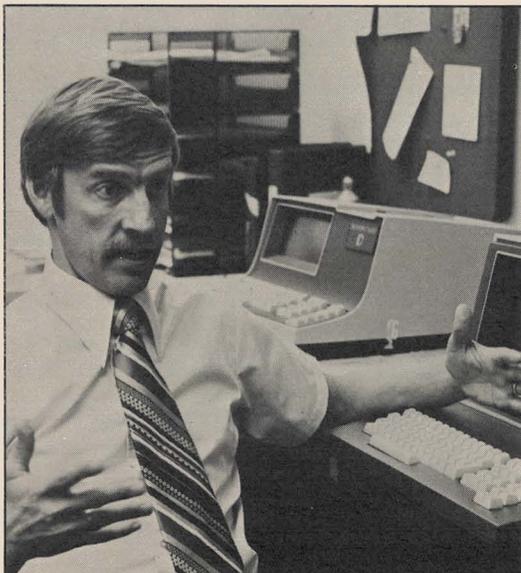
MASSGLS - a general ledger system. Diskette based. \$500.

MSSPLAN - a planning system. Ideal for budget development. \$500.

Demo packs \$50 per system.

Management System Services

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DATAPPOINT

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