# SOURCE DATA

THE DATAPOINT SYSTEMS NEWSLETTER

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## Networks: Local and Remote Communications

Local Area Networks (LANs) have become one of the hottest topics for technical articles and discussions. There are all kinds of claims and counterclaims as to which of the many approaches is best. You can find an analysis of broadband versus baseband, token passing versus "carrier-sense multiple access with collision detection" (CSMA/CD), or coaxial cable versus twisted pairs in almost any computer-related publication you read.

But let's put aside all the arguments that discuss LAN's viability, experience history, cost effectiveness, or approach, and focus on what makes everyone so interested.

### What is a Local Network?

A local area network is a localized interconnection of various resources to form an information processing network. The use of the word "local" area network should give us a clue that LANs are a subset of the solution to the overall communication problem. Few growing businesses can afford to consider a full-fledged data communications application from only a local perspective. And since total communication is the real issue, let's use the term dispersed processing to encompass communication in both the area of data processing and office automation.

Nearly everyone agrees that communication is the largest single problem facing growing corporations today. Local area networks address communication within a small geographic area, usually a single site; however, communication to other sites and/or the outside world is at least as important.

### Just How Can I Know What's Right for Me?

The prime characteristic that must be considered when evaluating and selecting dispersed processing systems is

## Software Releases

As you'll notice, there is no table of Software Releases in this issue of SOURCE DATA. Rather, all the software releases have been bound and have become part of SOURCE DATA. They will be released in this manner, on a bi-monthly basis, as part of SOURCE DATA.

## Financial Modeling For the Future with Multiplan

Would you like to know what your profits will be in five years if interest rates continue to climb? Do you wonder what your cost per unit will be this year if your suppliers' prices go up? Would you like to see what your own stock portfolio would be like if you invested in those three new companies? No, don't reach for your pencil and calculator; reach for your terminal and Multiplan*.

### Datapoint's Multiplan Can Help

Multiplan is the name of Datapoint's new entry into the world of financial modeling. Financial modeling gives you the ability to look into the future, project present
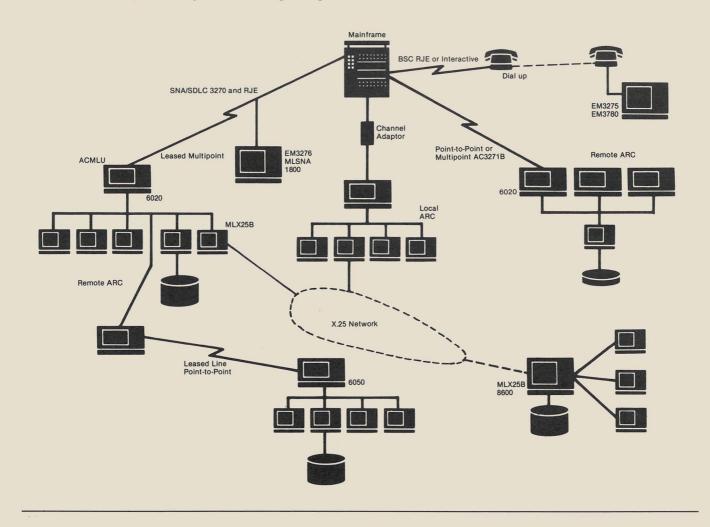
*Multiplan is a trademark of Microsoft Corporation.

their ability to communicate not only within themselves, but also with points in the outside world. A good LAN solution is characterized by:

1. The ability to exploit shared resources—one user or one resource communicating with another.
2. The ability to support shared data bases—one data base communicating with others.
3. The capability for economic, incremental growth — one small system expanding into a larger one.
4. The cost—initial acquisition, installation, maintenance, modular growth additions and software offered.
5. The capability and flexibility to communicate to the external world—the external world ranges from other computers at remote locations to an individual addressee, and so forth, each being able to receive a specific message.
6. And finally, the most important factor: the extent to which the system being considered improves pro-

ductivity or reduces expenses. "Office automation" is a poor term. A far more meaningful term is "office productivity." In general, computer systems offer major productivity improvements regardless of application. The networked computer system extends this at a lower cost per application.

The local area network must be combined with the necessary systems to effectively communicate with the outside world to be a total communication package. It must be able to encompass all aspects of communications, ranging from processor-to-processor communication to emulation programs that connect you with others outside your immediate locality. Looked at in this sense, the number of suppliers who can support their claims decreases considerably. Don't fall into the trap of being caught up in just a Local Area Network. Look at your total communication problem and select systems which will offer an overall solution.

For further information about Datapoint's local area network, contact your Datapoint representative.



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# DATA PROCESSING

## Do You Want To Configure Some Remote Terminals? No Problem!

Configuring remote terminals depends mainly on the physical cabling used to connect the terminals to the telephone company (telco) interface. This article details some of the equipment needed for configuring remote terminals.

### The Types of Cables Used

Whether the function of the terminal is to be a datastation operating under DATASHARE®  or a full-function workstation operating under RMS™, the physical hardware configuration is unaffected. The only tricky part is the link between the Datapoint® modem (Model Code 9478 or 9479) and the telephone line terminator jack supplied by the local telephone company. This link is shown by the symbol A on the drawing below.

If the line terminator jack supplied is a Bell RJ45S, no cable option for the 9478 or 9479 is required, since Datapoint's default cable will work. This default, or standard, cable has an 8-pin modular plug that fits directly into the 8-pin telco jack. This configuration is used for ordinary dial-up installations.

However, if the link is installed with a private branch exchange (PBX) or a key telephone system, a 6-pin telco jack is required to connect the 9478 or 9479, since the telco jack requires a cable with a 6-pin modular plug. The 6-pin jack by Bell is model coded RJ116 or RJ11C, and the appropriate cable option for the 9478 or 9479 is 0561.
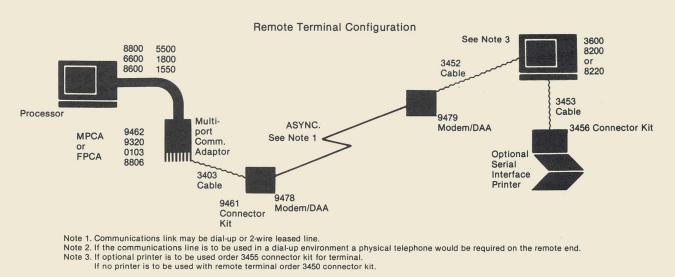
If the 9478 or 9479 modem is connected over a two-wire, unconditioned leased line, the 0067 cable option is required. The Bell model code for the line terminator used in a leased line environment is typically 42A. This type of terminator is referred to as a block terminator with contact posts. The 0067 is equipped with color-coded lug connectors that are connected to the contact posts on the terminator block.

| Line Type | TELCO Jack* | Terminator Type | Cable Option |
|---|---|---|---|
| Dial-up | RJ45S | 8-pin modular plug | None; uses default |
| Dial-up PBX or Key Systems | RJ11C or RJ116 | 6-pin modular plug | 0561 |
| 2-Wire Leased | 42C | Terminal Block with Lug Connectors | 0067** |

\* All line terminator jack model codes were supplied by Southwestern Bell and may vary with other telephone companies.

\*\* 0067 cable option cancels the 0562 cable option for 2-wire leased lines.

**Connection Requirements for Remote Terminal Configuration**

Four-wire leased lines are not supported. For more detailed information, please refer to the Split Speed Modem Product Specification, Document No. 60928, or contact your local Datapoint representative.

Remote Terminal Configuration



Note 1. Communications link may be dial-up or 2-wire leased line.
Note 2. If the communications line is to be used in a dial-up environment a physical telephone would be required on the remote end.
Note 3. If optional printer is to be used order 3455 connector kit for terminal.
 If no printer is to be used with remote terminal order 3450 connector kit.

trends, and see the results on sales, profits, cash flow, or any type of numerical information. Financial modeling allows you to interactively define a financial (statistical or accounting) scenario, such as next year's sales, by describing the factors that affect that projection, and then immediately see the results of that projection. Factors such as expected growth, inflation, cost of capital, and cost of goods can all be added to the model.



### It Works Like Your Accountant—Only Faster

Multiplan's screen looks much like an accounting spreadsheet, but instead of having 5 or 14 columns of accounting data, this electronic spreadsheet has up to 63 columns and 255 rows of data. Each column can be varied from 3 to 32 characters in width. The screen shows as many columns and rows as will fit at one time. The view on the worksheet is changed by moving it up and down, or side to side, with the arrow keys on the ten-key pad, like in IEOS.

Each column-row intersection is called a "cell." One cell at a time is highlighted; this is the "active cell." The active cell is moved around the screen using the arrow keys. When you reach the cell you want, you can enter one of three types of information into the cell: a number, an alphanumeric string, or a formula.

Formulas are made up of operators (such as + , - , * , / ) and cell references (row and column numbers). However, the cell references are supplied by the system itself. All you have to do is highlight the cells to be used in the calculation and key in the function. The modeling software creates the formula and performs the calculation. From that point on, any time any of the cells referred to in the formula change, the formula recalculates based on the new information.

### What Else Can It Do?

There are many more functions available other than just the four basic math functions. Also available are string manipulation functions, conditional operators (if...then statements), area functions (such as MAX, MIN, AVERAGE, SUM), and special functions (SIN, COS, TAN, LOG10, net present value, INDEX).

The command level instructions appear on the bottom four lines of the screen. These control data entry and modification, insertion and deletion of columns and rows, sorting of columns of data, as well as other sophisticated tasks. For example, several sheets can be "linked" together to pass information from one worksheet to another. Thus, several divisions of a company might create their own detailed sales reports, and then have the totals from those reports consolidated in another worksheet, which would show only the summary information from each division.

Built into the system is a powerful HELP command to provide detailed information on the commands. If the help function is entered after an error is made by the operator, a description of the source of the error is displayed.

You can split the screen into two or more separate views, or "windows," on the worksheet. Thus, you might keep the column totals fixed on the lower part of the screen, and move the rest of the worksheet around above it. You can specify up to eight vertical or horizontal windows.

The display format for the data can be varied. Numbers can be shown as dollar amounts, as whole numbers, percentages, bar charts, with or without commas, or in scientific notation. Label information can cross column boundaries, easily allowing for wide headers and footnoting, and all data can be right, left, or center justified.

You can print the screen information on an attached local serial or parallel printer, or put the results in a standard DOS text file. Thus, you can print a worksheet, EDIT it, or move it into other programs, such as IEOS. It can, of course, also be sent via communications protocols such as EMS or DATAPOLL® . the output file can also be used as input to Datapoint's Color Business Graphics System. In addition, Multiplan can get its data from other data files, possibly generated on a mainframe and brought in through communications, and create worksheets from that data. It's easy to see how Multiplan is a fully integrated part of the Integrated Electronic Office™.

Multiplan requires a DOS full-screen processor with 96K of memory to operate. This includes the 3800, 8600, and 1800 processors. All work is done at the processor screen. You don't have to be a programmer or even be technically oriented. You simply describe to the "electronic worksheet" the pattern of relationships that exist among the data that is keyed in. For example, as VP of Sales, you might enter this year's projections for sales by region. By entering a formula that increases sales by 35% per year, you could see the sales figures for the next three, five, or ten years at a glance.

As a special introduction of Multiplan to Datapoint's customers, the initial version D 1.1 for 1800, 3800, and 8600 processor will be free of charge with no maintenance fee. This means anyone can order this software, at no charge, without having to order a processor at the same time.

There are two manuals available, the Simplified User's Guide and Reference Guide (Document No. 50683), as well as the Quick Reference Card (Document No. 61300). They are very easy to use documents that will allow you to train yourself without any previous Multiplan knowledge, or even much previous Datapoint equipment experience. There is no Datapoint required training class with Multiplan.

No matter what your business, you can use Multiplan. Multiplan modeling software, coupled with all the other benefits of an integrated system from Datapoint, will give you the kind of information needed to make the right decisions in the 1980s.

# How to Read the RMS Release Form

If you're wondering what enhancements have been added to an RMS release, consult the RMS Release Form, located in the 9830 catalog on your release media. It is contained in a file called RMS/RFM. In case you are not sure what is in a release form, let's take a look.

### Version and Revision

The first section typically indicates the current release version and revision, the product description, the software replaced by the current release, and the hardware supported by the release.

```
                 RMS SYSTEM RELEASE

The software item documented on this form is the property of
and must be licensed from Datapoint Corporation.  Without
the prior written consent of Datapoint, a Customer shall not
use the software on equipment not provided by Datapoint, nor
transfer/assign the software to any third party.  In the
event the customer makes copies of the software, all copies
are subject to the terms and conditions of the license and
the customer must promptly affix to any copy the same
proprietary information and copyright notice as was affixed
to the original.


PRODUCT/VER/REV:          RMS 1.8


PRODUCT DESCRIPTION:      RESOURCE MANAGEMENT SYSTEM

RMS is an operating system which provides multiprogramming
via workstations.  The keyboard/display unit may use any
peripheral provided the user has appropriately authorized
security access.

PURPOSE OF RELEASE:       Corrects software problems.
                          Adds 8800 support for 2780/3780
                          and DATAPOLL protocols.


SOFTWARE REPLACED
BY THIS RELEASE:          RMS SYSTEM RELEASE 1.7

EXECUTION SUPPORT:

HARDWARE SUPPORTED:

      PROCESSOR:     3800/5500/6000/6600/6640/8600/8800
    WORK STATION:    3600, 8200, RMS Workstation
                     (8200 Version 2.3)
         DISK:       1401, 930X, 9310, 935X, 936X, 937X, 939
         COMM:       9402, 9462, 9481, 8809
       PRINTER:      923X, 926X, 928X, 9602, 925X, 9601
     MAG. TAPE:      9556, 9558, 9584, 9586
    CARD READER:     9504
          RIM:       9483
```

### User's Guides

The next section contains a list of the RMS User's Guides complete with the model codes and the latest version/update number. An asterisk flags all of those user's guides that were changed by the current release. So if you are confused as to the model codes for user's guides, look here first.

```
DOCUMENTATION:

User's Guide            Model Code   Current Version/Update Level

 COBOL                   50233        Version 3
*UCF                     50548        Update 1
*2780/3780               50549        Update 1
 HASP                    50550        Version 1
*DATAPOLL                50551        Update 1
*COMMFAC                 50552        Update 1
*DATABUS                 50589        Update 5
 DATASHARE               50590        Update 2
 RMS (VOL. I, II, III, IV)  50545     N/A
```

### Software Model Codes

Following the documentation list you will find the model codes of all the software released. Although you may not receive all of the software, the entire listing is provided for those customers that do.

```
Model Code Software:
   9829     RMS Data Communications
   9830     RMS Nucleus and Utilities
   9831     RMS DATABUS
   9832     RMS DATASHARE
   9835     RMS Nucleus, Utilities, and DATASHARE
   9836     RMS COBOL
   9837     RMS RPG
   9853     RMS IEOS

Program Files Released: (* - Denotes changed since last release)
```

### Program Files

Now comes the Program Files Released section. This section contains the details of the files released for each product, grouped by software model code. In addition, it contains a description of the minimum amount of memory required to support that software product. Each utility, language, and communication product is detailed with a description as well as the current version number. The asterisk is used again to flag those products that changed in this release.

```
Model Code 9830 - Nucleus and Utilities:

                                     Minimum
                                     Memory
Product   Version Files Released    (bytes)  Description
BACKUP     1.1                        32K     Disk Backup Utility
                    BACKUP/CMD                Command Library
                    BACKUP/RFM                Release Form

BACKUP9301 1.1
                    BACKUP9301/CMD            Command Loader
                    BACKUP9301/RMS            Backup/Restore Command
                                              Library
                    BACKUP9301/RFM            Release Form
```

### What About the Changes?

What if you need information on specific changes to a software product, such as information on changes to the CAT command? Each software product has its own release form. The release form for CAT is CAT/RFM and is found in the 9830 catalog, since that is where the CAT/CMD file is located. You can then list or print the RFM for CAT for the current information.

```
*BUILD     1.4                        36K     Text File Build Utility
                    BUILD/CMD                 Command Library
                    BUILD/RFM                 Release Form

*CAT       1.3                        24K     Catalogue Utility
                    CAT/CMD                   Command Library
                    CAT/RFM                   Release Form

CHAIN      1.4                        36K     Command Chaining Utility
                    CHAIN/CMD                 Command Library
                    CHAIN/RFM                 Release Form
```

The release forms found in the RMS release media offer virtually all the information you will ever need about software status. Look to them first, even before you open the user's guide, since you may have the wrong edition of the guide without even knowing it.

# How to Configure the 8220 Workstation

The Datapoint 8220 Workstation is a general purpose, interactive video terminal designed for use with Datapoint's DOS or RMS operating systems. It is ideal for applications processing, program development, and word processing functions. In the following sections, you'll learn how to configure the 8220 for your specific application. This information was taken from the 8220 Product Specification, Document No. 61295, which can be ordered through Software Services.
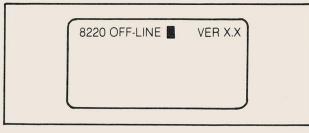
## Off-Line Operation

The 8220 has two submodes of operation which are accessible through the Off-Line Mode: Configuration Option Mode and Diagnostic Mode. Off-Line operation can be selected through the 8220 keyboard.

To cause the 8220 to operate off-line, the following keyboard actions must be taken:
• Hold down the CTRL key,
• Depress the INT key twice in succession, then
• Release the CTRL key.

Any data displayed on the screen prior to going off-line will be erased, and the display shown will appear.

To return to on-line operation, the Off-Line Access Sequence must be repeated. The display will be erased and the cursor will appear in the first character position of the first line (Home Up position). The 8220 will also return to on-line operation after it is powered OFF and then powered ON again.



*Workstation Screen in the Off-Line Mode*

## Configuration Option Mode

The Configuration Option Mode is designed to permit the user to tailor the response of the 8220 so it can take advantage of the capabilities of the host processor. The Configuration Options provide five general areas of terminal features: Operator Convenience Options, Communication Options, Character Options, Cursor, Line Spacing and Bell Options, and Local Control Options.

When the workstation is in the off-line mode, the Configuration Option Mode may be selected by keying in "(OPT)". Previously displayed data will be erased. An illegal key entered before or during the access sequence causes a beep, but leaves the workstation in the off-line mode.

NOTE: The SHIFT key must be held down when entering the parantheses, but not when entering OPT.

After the workstation enters the configuration mode, the CRT display shown appears. A message describing each option is displayed along with the current setting of the option. Baud rate information is displayed in its numeric value. If the receive baud rate is set at 9600 baud, the display will show "RX BAUD 9600". Parity option

information is displayed with the word "PARITY" followed by a 1 for one parity, a 0 for zero parity, an E for even parity, or an O for odd parity. The remaining options are displayed with a brief message followed by a "Y" or an "N" to indicate whether or not a particular option is enabled.

To set each option, enter the setting desired in the same manner it is displayed. (To set baud rates, enter the numeric value desired.) To skip an option where no change is required, press ENTER. When all the options have been selected, an "ADJUST BRIGHTNESS" message is displayed, followed by a "DONE?". To adjust brightness, hold the CTRL key down. Press the key above it to increase brightness one level. Press the key below it to decrease brightness one level. Release the CTRL key when the appropriate brightness level is reached.

After adjusting the display brightness, enter a Y in response to the "DONE?" message if no further changes are needed on the configuration option display. If a Y is entered, the display sceen will go blank and the new option settings will be written to the nonvolatile memory. If any other response is entered, the cursor is repositioned to the first option. Each option may then be corrected or changed as necessary.



*8220 Sample Display Screen During Configuration Option Mode*

## Operator Convenience Options

These options allow the operator to change the display brightness or make the keyboard similar to a Datapoint 3600 keyboard.

### Brightness Control

While in the configuration mode, brightness can be permanently adjusted. To increase the brightness one level, hold the control key (CTRL) down, and press the key above it once. Each momentary depression of the key above the CTRL key increases brightness one level. To decrease brightness one level, hold the control key (CTRL) down, and press the key below it once. Each momentary depression of the key below the CTRL key decreases brightness one level.

When the 8220 is powered off and powered on again, the brightness level will default to that specified during the Configuration Option Mode.

### Double Key (DBL key)

The Double Key option may be used to prevent keying er-

rors if experienced 3601 operators are using the 8220 Workstation. This option causes the F5 key to act as an extension of the INT key, and the F1 key to act as an extension of the NEW LINE key.

When this option is disabled, the F5 key and the F1 key return to the respective codes assigned to them. This option is not available if the general purpose keyboard option is set.

### Click

This option allows the operator the convenience of controlling the click generated by the keyboard ROM on key depression. If the operator responds with N to CLICK, the keyboard ROM will not click on key depressions nor will the host processor software be allowed to turn on the keyboard ROM click. If the operator responds with Y to CLICK, the keyboard ROM will click on key depression and the software executing at the host processor is allowed to enable or disable the click from key depression as desired.

The state of this option does not control the click command (033, 07); the option controls only the clicks generated by the keyboard ROM on key depression. The state of this option is not reported to the host processor during configuration/interrogation load response.

## Communications Options

The communications options allow the operator to select baud rates, parity format, and modifications to character codes transmitted.

### Baud Rates (RX BAUD and TX BAUD)

The baud rate option permits selection of the transmit and receive baud rates independently for the communications channel. These baud rates are listed below:

| | | | |
|---|---|---|---|
| 50 | 75 | 110 | 150 |
| 200 | 220 | 300 | 440 |
| 600 | 1200 | 1800 | 2400 |
| 4800 | 9600 | | |

When the terminal is in the configuration mode and the cursor is flashing next to the "RX BAUD" or "TX BAUD" messages, the baud rate may be changed by entering the desired baud rate from the list above. If no change to the baud rate is necessary, press the ENTER key to advance the cursor to the next option. Baud rate options cannot be changed by a down-line load.

### Parity Options (PARITY)

The parity option permits selection of the type of parity bit to be appended to the seven bits of data transmitted to the host processor. When the 8220 is in the configuration mode and the cursor is flashing next to the "PARITY" message, the parity options may be entered. The workstation ignores the parity bit on incoming data.

### Even Parity: "E"

Enter the character "E" for even parity. An even parity bit will be appended to the seven data bits.

### Odd Parity: "O"

Enter the character "O" for odd parity. An odd parity bit will be appended to the seven data bits.

### 1 Parity: "1"

Enter the character "1" for 1 Parity. A "1" bit will be appended to the seven data bits.

### 0 Parity: "0"

Enter the character "0" for 0 Parity. A "0" bit will be appended to the seven bits transmitted to the host processor.

### Control Key (Control Code Generation — CTRL KEY)

The Control Key option enables the operator to generate all the ASCII control characters for system keycode transmission to the host processor.

When a Y is entered in response to the "CTRL KEY" message, the workstation alters the system key code of any alphanumeric key depressed when the CTRL key is held down. The keycode will be logically "anded" with a 037 and transmitted to the host processor. Other functions of the CTRL key do not change.

## Character Options

The character options allow the operator to either display additional characters or display only upper case characters.

### Upper Case Character Set Only (UP CASE)

If the Upper Case Only option is selected by entering a Y to the "UP CASE" message, the workstation will substitute upper case system key codes for lower case codes before transmitting them to the host processor. The 26 alphabetic keycodes are the only codes which are modified. Display data received from the host processor is not affected.

### Print Additional Characters (PRINT ALL)

The Print Additional Characters option allows the operator to increase the number of displayable characters. By entering a Y to the "PRINT ALL" option, the workstation will display ASCII characters below octal 040.

If this option is disabled, the workstation will ignore all ASCII characters received from the host processor below 040 except the control characters.

### General Purpose Keyboard Option (GP KBD)

The General Purpose Keyboard option lets the 8220 Workstation support either a Datapoint Universal keyboard or a General Purpose keyboard. A response of Y indicates that the 8220 is equipped with a General Purpose keyboard. A response of N indicates a Universal keyboard. The General Purpose keyboard is standard on the 8220 Workstation.

### SHIFT and ALPHA Configuration

The right shift key has two configuration options: SHIFT and ALPHA. If a Y is entered in response to the "ALPHA OPT" message, the right shift key will be changed to the Alpha configuration. If an N is entered, the right shift key will be in shift configuration.

The 8220 keyboard can operate in two modes of shift operation: SHIFTED and UNSHIFTED. The SHIFT key provides a momentary shift mode while it is held down. The SHIFT LOCK key, when pressed, places the keyboard in shift mode. The keyboard will remain in the shift mode until the SHIFT key is pressed again. An indicator light in the shift key signals the operator when the keyboard is in shift lock mode. The keyboard is initialized to the unshifted mode when the workstation is powered on.

The SHIFT and SHIFT LOCK keys do not generate a keycode, but do cause the codes generated by the other keys to be altered. The space bar and decimal point on the numeric pad are unaffected by the shift/unshift mode. The control keys generate separate codes for shifted and unshifted keys on depression.

The right SHIFT key can operate as a shift key as described above or as an Alpha key. The SHIFT key can be set to the Alpha key option by specifying the ALPHA KEY option while in the configuration mode. The Alpha key when held down momentarily returns the keyboard to the unshifted mode when in the shift lock mode. The keyboard returns to the shift lock mode when the alpha key is released. The shift lock indicator light remains lit when the alpha key is depressed or released.

The left hand shift key will always operate as a standard SHIFT key, regardless of the configuration of the right shift key.

### Special Repeat Option (SP RPT)

A response of Y to this option causes the 8220 to send a

special keycode for repeated keys. The special keycode is 0. If the local display option is enabled, this option is ignored. A response of N to this option causes the 8220 to send repeated keycodes as if the keys had been individually pressed.

### Escape Sequences from Keyboard Option (ESC KBD)

This option provides for the transmission of escape sequences from the keyboard for certain keys. A response of Y causes the depression of the number pad keys, the function keys, backspace, cancel, and enter to be translated With a response of Y any key depression can be translated into an escape sequence by down-line loading the keyboard translation table.

| b7 = | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
|---|---|---|---|---|---|---|---|---|
| b6 = | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| b5 = | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| **b4321** | | | | | | | | |
| 0000 | RPT | S BSP | SPACE | MK O | @ *S NP0 | P *INT | \ *F1 up | p |
| 0001 | NP1 | DLR | ! | MK1 | A *S NP1 | Q *ATT | a *F2 up | q |
| 0010 | NP2 | NP7 | " | MK2 | B *S NP2 | R | b *F3 up | r |
| 0011 | KBD UP | F5 dn | # | MK3 | C *S NP3 | S | c *F4 up | s |
| 0100 | NP4 | NP9 | $ | MK4 | D *S NP4 | T | d *F5 up | t |
| 0101 | NP8 | KBD dn | % | MK5 | E *S NP5 | U | e | u |
| 0110 | NP6 | DSP up | & | MK6 | F *S NP6 | V | f | v |
| 0111 | F1 dn | NP 0 | ' | MK7 | G *S NP7 | W | g | w |
| 1000 | BSP | CANCEL DECIMAL | ( | MK8 | H *S NP8 | X | h | x |
| 1001 | F2 dn | POINT | ) | MK9 | I *S NP9 | Y | i | y |
| 1010 | F3 dn | | * | | J | Z | j | z |
| 1011 | F4 dn | | + | | K | [ | k | { |
| 1100 | DSP dn | | | < | L | \ | l | \| |
| 1101 | ENTER | S ENTER | — | = | M | ] | m | } |
| 1110 | NP3 | S CANCEL | v | N | | v | n | _ |
| 1111 | NP5 | | ; | ? | O | — | o | DEL |

*preceded by 033, NP = number pad, MK = main keyboard, S = shifted

**— ESC KBD On Code Definition —**

| b7 = | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
|---|---|---|---|---|---|---|---|---|
| b6 = | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| b5 = | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| **b4321** | | | | | | | | |
| 0000 | RPT | | SPACE | NP0 MK0 | @ | P | \ | p |
| 0001 | | DSP up DLR | ! | NP1 MK1 | A | Q | a | q |
| 0010 | | | " | NP2 MK2 | B | R | b | r |
| 0011 | KBD UP | F5 dn | # | NP3 MK3 | C | S | c | s |
| 0100 | | F2 up | $ | NP4 MK4 | D | T | d | t |
| 0101 | | KBD dn | % | NP5 MK5 | E | U | e | u |
| 0110 | | F1 up | & | NP6 MK6 | F | V | f | v |
| 0111 | F1 dn | ATT | ' | NP7 MK7 | G | W | g | w |
| 1000 | BSP | F3 up | ( | NP8 ML8 | H | X | h | x |
| 1001 | F2 dn | F4 up | ) | NP9 MK9 | I | Y | i | y |
| 1010 | F5 dn | F5 upN | * | | J | Z | j | z |
| 1011 | F4 dn | CANCEL | + | | K | [ | k | { |
| 1100 | DSP dn | INT | | v | L | \ | l | \| |
| 1101 | ENTER | | — | = | M | ] | m | } |
| 1110 | | | v | | N | v | n | . |
| 1111 | | \|— —\| | / | ? | O | — | o | DEL |

NP = number pad, MK = main keypad

**— ESC KBD Off Code Definition —**

This option can be disabled with a response of N and can be disabled by the host processor by a down-line load of the terminal's configuration with the ESC SEQ from the keyboard bit not set in the option flag 4 byte

If this option is enabled, the local display option is ignored. Whenever the CTRL key option and the ESC KBD option are both enabled, the CTRL key option will alter the

character code of the second character of the escape sequence. This provides a method of transmitting escape sequences with the second character code less than 040.

## CURSOR, LINE SPACING, and BELL options

These options allow the user to select alternative controls over cursor movement, line spacing and the bell function.

### Line Feed and Carriage Return After Printing Rightmost Character of Line (AUTO CR/LF)

Each time a character is received by the terminal and displayed on the screen, the cursor is moved to the next character position on the screen. The AUTO CR/LF option controls the character display after the rightmost character is received.

If the AUTO CR/LF option is not enabled and the rightmost character of a line has already been received, the last character of any additional characters received is displayed in the last character position. Characters previously in that position will be lost. All other characters in the line are not disturbed.

If the AUTO CR/LF option is enabled and the rightmost character of a line has already been received, the cursor will move to the next line and display any additional characters received. Upon displaying a character in the rightmost position of the 24th line (or the bottom line of the subscreen if the Subscreen option is enabled), the cursor moves to the first position of the current line. Additional characters received overwrite the line. However, if the AUTO ROLL UP with bottom line feed option is enabled, a character displayed in the right most position of the last line causes the screen to be rolled up one line within the roll window. The cursor is positioned at the first character position of the 24th line (bottom line of subscreen if the Subscreen option is enabled).

### Auto Roll Up with Bottom Line Feed (AUTO ROLL)

The AUTO ROLL option causes the displayed data to move up one line when the cursor is on the 24th line (bottom line of subscreen if the Subscreen option is enabled) and a LINE FEED control character is received.

If the AUTO ROLL option is enabled and the terminal receives a Line Feed control character while the cursor is on the 24th line (bottom line of subscreen), each displayed line moves up one line leaving the 24th line blank (bottom line of subscreen). The data previously displayed on the first line of the screen (top line of subscreen) will be lost.

If the AUTO ROLL option is disabled, the terminal will ignore Line Feed control characters received when the cursor is on the 24th line or bottom line of the subscreen.

### Roll Down (ROLL DN)

The ROLL DOWN option causes displayed data to move down one line, leaving line one blank (top line of subscreen if Subscreen option is enabled). If the ROLL DOWN option is enabled, and a Roll Down control character is received, each displayed line will move down one line. Data previously displayed on line 24 (bottom line of subscreen) is lost. The cursor position is not affected.

If the ROLL DOWN option is disabled and a Roll Down control character is received, the workstation ignores the character.

### Cursor Increment with Delete Character (PRINT DEL)

The PRINT DEL option selects alternate controls over cursor movement when it receives a Delete character (0177). If this option is enabled and a Delete character is received, the Delete symbol is displayed, and the cursor moves to the next character position.

If the PRINT DEL is disabled and a Delete character is received, the cursor position is not affected.

### Cursor Off (CURS OFF)

The CURSOR OFF option allows the host processor to turn the cursor on or off. If this option is enabled, the workstation will respond to the Cursor On or Cursor Off commands from the host processor. Cursor positioning will not be affected by those commands. If this option is disabled, the cursor is displayed whenever it is on the workstation screen or subscreen. Cursor On or Off commands are ignored while the CURSOR OFF option is disabled.

### Bell on Printing Character 64 (BELL)

The BELL option allows the operator to select alternate controls over the sounding of the bell. If the bell option is enabled, the workstation sounds a bell whenever a character is displayed in the 64th character position of any line, and responds to the Bell character received from the host processor. If this option is disabled, the workstation sounds a bell only when the Bell character is received from the host processor.

## Local Control Options

The Local Control Options include Local Display (half-duplex), Local Erase, Local Home, and Break.

### Local Display (LOC DISP)

The LOCAL DISPLAY option provides an echo mode capability for the workstation. Characters generated by the keyboard may be displayed on the CRT screen as well as sent to the host processor. This option should only be selected when the host processor is not echoing characters back to the workstation.

If the LOCAL DISPLAY option is enabled, the workstation transmits system keycodes to the host processor and displays those keycodes on the screen. The workstation continues to display characters received from the host processor. If the Local Display option is disabled, the workstation transmits system keycodes to the host processor, but will display only those characters received from the host processor.

### Local Erase (LOC ERASE)

The LOCAL ERASE option allows the operator to initiate the Erase to End of Frame function. This causes the screen to be erased from the current cursor position to the last line. If the LOCAL ERASE option is enabled, the workstation erases the screen from the current cursor position to the end of the frame whenever the operator depresses the erase key (key above CTRL key).

### Transmit Erase (TX ERASE)

The TRANSMIT ERASE option allows the operator to transmit an EEOF system keycode to the host processor. If the TX ERASE option is enabled, the terminal generates an EEOF system keycode and transmits it to the host processor whenever the operator depresses the designated ERASE key (key above the CTRL key).

### Local Home (LOC HOME)

The LOCAL HOME option permits the operator to move the cursor to the "home up" position (first character of first line). If the LOCAL HOME option is enabled, the cursor moves to the home up position whenever the operator depresses the HOME key (key below the CTRL key).

### Transmit Home (TX HOME)

The TRANSMIT HOME option allows the operator to transmit a Home Up system key code whenever the operator depresses the designated Home key (key below the CTRL key).

### Local Break (BREAK)

The LOCAL BREAK option generates a break condition at the 8220 Workstation. A break occurs when the transmit data line (pin 2) in the communications interface connector goes to the spacing condition (positive voltage: all data bits are zero) for a period of time longer than the normal character time. This condition is sometimes used as a means of signaling between devices that communicate serially.

If this option is enabled, the workstation generates a break condition whenever the BREAK key is depressed. The duration of the break condition is independent of the time length that the BREAK key is depressed. If this option is disabled, the workstation will take no local action when the BREAK key is depressed, but transmits whatever system keycode has been assigned to the key.

---

# 8600 Benchmarks

Recent benchmarks on the 8600 disk systems have shown that it is roughly equivalent to the 6600.

**Using DATASHARE®**

DATASHARE benchmarks have been run comparing the speed of the 8600 with the 6600. The results are quite impressive. The benchmarks consisted of 14 different programs. The programs were grouped into three categories: internal, external, and transactional.

Below, the first graph represents the timings of programs running port one on console, and the second graph represents the timings of programs running with four terminals through the MPCA.

"Internal" reflects the aggregate timings of three pro-

grams designed to be processor bound. They consisted of arithmetic operations, string handling, nested calls, and returns.

"External" reflects the aggregate timings of seven I/O bound programs. These programs do I/O function such as disk access, terminal displays, and rollouts.

"Transactional" shows the aggregate timings of four programs that do different types of internal and external functions.

The processors used in the benchmarks were an 8602 and a 6600 running on a DOS ARC. The memory size of each was 128K.

As you can see, the 8600 with port one on console outperformed the 6600 every time. Even with the four port benchmark, the 8600 performed very closely to the 6600.



PORT ONE ON CONSOLE



FOUR PORTS

# Local IEOS Support Numbers

In the February/March issue of SOURCE DATA, the article, "IEOS Support Now Local" listed the local sales offices numbers. Unfortunately, some errors were made in that list. Here it is again. We regret any inconvenience this may have caused you.

Arlington, IL.........................312/956-8050
Atlanta, GA..........................404/321-6963
Bala Cynwyd, PA.....................215/667-9477
Baltimore, MD.......................301/298-3060
Bellevue, WA........................206/455-2044
Birmingham, AL......................205/252-0623
Birmingham, MI......................313/645-1610
Boston, MA..........................617/273-5030
Charlotte, NC.......................704/527-5300
Chicago, IL.........................312/977-1470
Cincinnati, OH......................513/984-5057
Columbus, OH........................614/890-7686
Creve Coeur, MO.....................314/878-6595
Dallas, TX..........................214/661-3895
Denver, CO..........................303/696-8910
Des Moines, IA......................515/225-9070
Des Plaines, IL.....................312/298-1240
Hartford, CT........................203/568-3860
Elmwood Park, NJ....................201/794-3570
Farmington Hills, MI................313/540-2400
Fort Wayne, IN......................219/432-4098
Fort Worth, TX......................817/284-1355
Greensboro, NC......................919/299-8401
Honolulu, HI........................808/537-2977
Houston, TX.........................713/680-8800
Independence, OH....................216/447-1290
Indianapolis, IN....................317/299-4253
Irvine, CA..........................714/754-7100
Kansas City, MO.....................913/384-0990
Knoxville, TN.......................615/691-0514
Little Rock, AR.....................501/225-0374
Los Angeles, CA.....................213/385-0395
Louisville, KY......................502/893-2531
Memphis, TN.........................901/761-3080
Miami, FL...........................305/621-4335
Milwaukee, WI.......................414/453-1425
Minneapolis, MN.....................612/831-2257
Nashville, TN.......................615/361-5981
New Orleans, LA.....................504/831-8101
New York, NY........................212/826-9509
Norfolk, VA.........................804/461-1552
Oakland, CA.........................415/632-8116
Oklahoma City, OK...................405/942-1056
Omaha, NE...........................402/392-1213
Orange Park, FL.....................904/264-6935
Orlando, FL.........................305/896-1940
Phoenix, AZ.........................602/264-0330
Pittsburgh, PA......................412/788-6420
Portland, OR........................503/644-5575
Raleigh, NC.........................919/469-3134
Richmond, VA........................804/285-8611
Rochester, NY.......................716/248-2616
Sacramento, CA......................916/920-8743
Salt Lake City, UT..................801/262-2975
San Antonio, TX.....................512/734-8982
San Francisco, CA...................415/398-2888
San Mateo, CA.......................415/572-1360
Stamford, CT........................203/358-0390
Syracuse, NY........................315/472-6642
Tampa, FL...........................813/879-8216
Toledo, OH..........................419/474-5766
Tulsa, OK...........................918/664-2295
Washington, D.C.....................703/841-7600

# INFOSWITCH User's Group Holds Spring Meeting

The Datapoint Infoswitch® User's Association held its annual spring meeting April 6-9 at the New Orleans Hilton. The group's president, Ken Berry, said that the meeting is always a big success, since "we have a common denominator in our group—telecommunications.

"Since we include all products of Datapoint's Communication Management line, like ACD, LDCS, and the up and coming ISX system, our meetings include users of all these products," he says. "We gathered to recommend enhancements to current software like ACD and LDCS and to bring up problems that individuals may be having that others in our group have already experienced. Many of the enhancements we've recommended have shown up in current releases of the software. That's pretty gratifying," Berry adds.

Datapoint users weren't the only people involved in the meeting. Consultants from the business sector and representatives from AT&T spoke on the portions of telecommunications that everyone shares, such as network access charges and regulatory updates. Other speakers, such as Harry Newton, relayed information on "New Techniques for Saving Money on Telephones in the 1980's."

If you'd like more information on the INFOSWITCH User's Association, please contact Mr. Berry at:

Indiana University
Purdue University at Indianapolis (IUPUI)
Telephone Services
1100 W. Michigan St.
Indianapolis, Indiana 46223
(317) 264-8413

# Want To Be Part of a Datapoint User Group?

If you'd like to be part of a Datapoint user group but don't know of one in your area, please send me your name and address. I've had some calls in the past few weeks from people in the southern part of California and in the northeastern part of the country who are interested in being part of a user group. So please, write or call me if you're interesed.

USER GROUP
c/o Karrie Reagan, Editor
SOURCE DATA
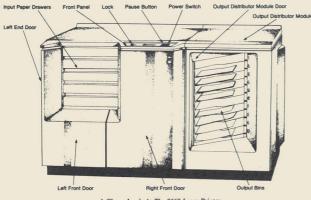9725 Datapoint Drive, #T41
San Antonio, Texas 78230
(512) 699-7059

# More News on the 9660 Laser Printer

The 9660 Laser Printer, an electro-photographic, non-impact printer with high throughput and high printing quality for use in an RMS environment, was announced in November of 1981. The standard configuration includes the printer, one output distributor, and an accessories supply cabinet. This article will deal with a few of the basic functions of the new Laser Printer.

## Designed to Make Your Job Easier

The 9660 was conceived and designed to be an integral part of the Integrated Electronic Office. In essence, this means that you can select any of the 9660's features from your workstation, so you don't have to walk to, touch, or stand in line at the printer. You initiate all your work from your workstation, since five kinds of paper in the printer can be addressed by user-assigned paper names. Finished print jobs are distributed by destination name into output bins and optional lockboxes. All printer job and status information is available at the workstation. With this feature, you can tell whether or not there is output in your printer "mailbox" from your desk, as well as what paper is in the 9660.
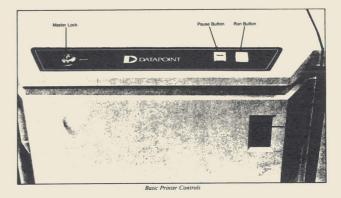


*A Closer Look At The 9660 Laser Printer*

The printer is quiet and is styled so it can be used in any environment. Since no service access is required to the rear of the 9660, it can be installed permanently against a wall. The standard printer containing one output module is 25 inches deep, 40.5 inches high, and 70 inches long. Each additional output distributor, up to the maximum of eight, adds 27.5 inches to the length.

The printer requires 220 volt, single phase, 20 amp service, and can be strapped for other voltages. A fully configured 9660 draws just under 20 amps at peak consumption. The printer comes with a 20 amp plug, so a 20 amp receptacle is required.
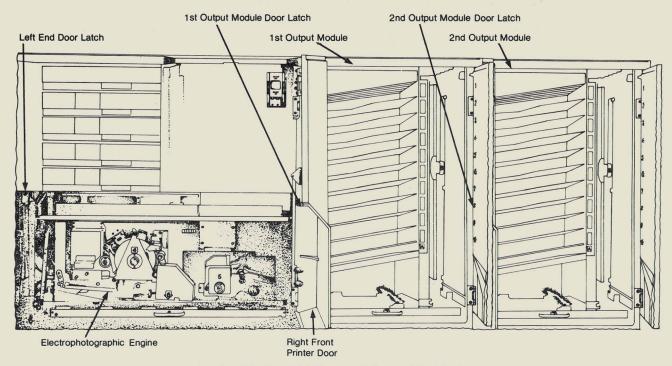
## Control Panel

The control panel on the 9660 has only two buttons: PAUSE and RUN. The PAUSE button is used when operator intervention is required. You can push it to gain access when you need to change paper, add toner, or insert or remove a lockbox. Once you push the PAUSE button, the 9660 continues printing until all paper in motion has reached an output destination. You can push the RUN button to start or resume print operations. All doors on the 9660 are locked when the RUN button is lit, and a key-lock on the control panel can limit access to key operators only.



*Basic Printer Controls*

## How Does the Printing Work?

An image is created when a laser scans a light-sensitive, photoconductor drum, discharging the drum while the laser is on. Toner is then attracted to the remaining charged areas of the drum. (The electrophotographic process uses a self-adjusting, closed-loop process that gives consistent document-to-document quality.) The toned image is then transferred from the drum to the paper; it is fixed in place on the paper using a fuser that combines moderate temperature and pressure. Large black areas have consistent high-density quality due to this electrophotographic process, toner formula, and toning technique.

But electrophotographic processes alone are not enough to guarantee good correspondence-quality images. Character design and high image resolution are also required. The character sets are carefully digitized and checked by a font specialist from Datapoint's development group. The 9660 can address 480 positions per inch horizontally (parallel to the short side of the paper) and 240 positions per inch vertically. This combination eliminates the visible stair-step effect, referred to as "jaggies," that occurs on some laser printers.

*Opening The Left End Door and Output Module Doors*

**Five Types of Paper**

The excellent image quality is complemented by the 9660's ability to have five different types of input paper loaded at the same time. Each of the five input paper drawers contains a removable paper tray that can hold up to 500 sheets of bond paper. On each tray is a coded tab that determines the numeric code that is associated with the tray. A generic paper name, by which the paper is ultimately selected, is entered in the configuration file to reference this code. Up to 255 different paper types may be configured for each printer. The tray has moveable stops that customize each tray's shape for either 8½ x 11, 8½ x 14, European A4, or European A4 extended paper sizes. The paper may have long grain or short grain fibers with weights between 16 and 22 pounds. The 9660 can also print on colored paper or certain types of transparencies. If you have loaded two or more drawers with the same paper type, the printer automatically uses the next drawer with the same paper when the supply in the first is exhausted.

**Selecting Your Type of Printing Style**

By using selection commands, you can mix paper types within a document, place up to 32 different fonts on a page, print single or double-sided pages, select head-to-head or head-to-toe printing, and print pages in either portrait or landscape orientation.

Print orientation is defined by the direction the characters are placed on a page. "Portrait" orientation places characters along the short dimension of the page; letters and memos are typed in portrait fashion. This is sometimes referred to as normal or non-rotated printing. "Landscape" orientation places characters on the page along the long dimension; longer tables and charts are sometimes printed landscape fashion. This is sometimes referred to as rotated printing. You can mix these different types of printing styles on successive sides of a document, but you can't mix them on the same side of a document without creating special character sets. A fifteen pitch font gives a line length of 120 characters in portrait mode and 206 characters on a 14-inch landscape page. This line length covers most existing and future applications.

The 9660 can print double or single sided on the paper provided. When printing double-sided print, the 9660 can place characters on alternating pages with the top of the page either at the same end or upside down relative to the print on the other side of the page. When the tops of all pages are located at the same end of the page, the printing is referred to as head-to-head, normal, or booklet printing. When the print is on alternate pages, upside down relative to each other, the printing is called head-to-toe, head-to-tail, legal, or tablet printing.

Watch SOURCE DATA for upcoming articles concerning other functions of the 9660 Laser Printer. For further information concerning any of the features discussed in this article, please contact your local Datapoint representative.

# A PACKUP CHAIN for Your WP Libraries

PACKUP can often be a time-consuming project, especially when you have larger libraries containing frequently modified documents. Now, you can write a CHAIN file to do PACKUP for you, almost automatically!

**How Do I Do It?**

You'll create a document in IEOS to perform the CHAIN. First, create a document by using the command,

CREATE DOCUMENT PACKUP

This will create a WP file named PACKUP. You can provide any information for the description line. Next, you'll set up the format in the following way:

```
JUSTIFY LEFT
PAGE LENGTH            1
LINE SPACING          1
PARAGRAPH             2 0
SET TAB
LEFT HEADER
RIGHT HEADER
LEFT FOOTER
RIGHT FOOTER
PAGE NUMBER           1
TOP MARGIN            0
BOTTOM MARGIN         0
LEFT MARGIN           1
RIGHT MARGIN          80
PITCH                 10
CLICK OFF
```

Press the ENTER key to get into the document. Once you've done this, you'll enter the following information:

```
IEOS
OPEN LIBRARY <library name>
UTILITY
UNLOCK LIBRARY <library name>
YES
IEOS
PACKUP NO LIBRARY <library name>
```

Notice that each line of text that you keyin is on a different page. This allows the file to be executed in DOS once you output it on a text file.

You'll enter the group of lines above for each library that you want to include in this PACKUP CHAIN. After you've included all the libraries you want, enter the word

EXIT

so that your CHAIN file will exit to DOS when it has completed.

A CHAIN file to PACKUP libraries LETTER, MEMO, and PROPOSAL would look like this:

```
IEOS
OPEN LIBRARY LETTERS
UTILITY
UNLOCK LIBRARY LETTERS
YES
IEOS
PACKUP NO LIBRARY LETTERS
OPEN LIBRARY MEMOS
UTILITY
UNLOCK LIBRARY MEMOS
YES
IEOS
PACKUP NO LIBRARY MEMOS
OPEN LIBRARY PROPOSAL
UTILITY
UNLOCK LIBRARY PROPOSAL
YES
IEOS
PACKUP NO LIBRARY PROPOSAL
EXIT
```

Once you've written your file, check to make sure that you've not keyed any mistakes. You'll use the following command to OUTPUT the file to a text file in DOS:

OUTPUT DOCUMENT PACKUP ON TXT= PACKUP/TXT

To execute this CHAIN file, you need to be in DOS. Exit from IEOS and enter the command line:

CHAIN PACKUP/TXT

and press the ENTER key. If a library is already packed up or unlocked, the terminal will beep and display a quick message stating that the procedure has been previously performed. The CHAIN will proceed to the next library to be packed up.

The CHAIN command must be available for this to work. If you do not have the command file for CHAIN, or if you have additional questions, please contact your local Datapoint representative.

# To the Editor of SOURCE DATA:

The February/March 1982 issue of SOURCE DATA contained an article on the front page concerning static buffering which I feel could be tremendously misleading.

While I do not dispute the fact that static buffers in a DATABUS program could provide significant performance improvements, they could also cause significant system degradation.

When a file is opened in EXCLUSIVE mode, sector I/O is performed when the current batch of sectors in the buffers allocated to the file are exhausted. When the file is opened in SHARE mode, which is the default unless otherwise specified, the buffers allocated to the file are flushed after every I/O operation. This is where the potential for severe degradation arises.

Imagine a file opened in SHARE mode which has 35 byte record length. Specifying STATIC = 8 would result in two 8 sector I/O operations (reading in the sectors, flushing them back) to read a 35 byte record.

It is desirable to fetch an entire record with a single I/O operation. If the user's file contained records consistently larger than 256 bytes, this would be the only valid reason for using static buffers on a file opened in SHARE mode. The number of static buffers that should be assigned should reflect the minimum number that would contain a single record.

It is my opinion that these factors should be considered in any discussion of the use of static buffers and their effectiveness in RMS DATABUS.

*Mark Anderson, Instructor*
*SYSTEMS EDUCATION*

*This letter makes a valid point about static buffering. In creating the article, the author made the assumption that the files were open in EXCLUSIVE mode. All of the tests were run with EXCLUSIVE mode opens. It is not advisable to use static buffering in conditions where the files are open in SHARED mode because of the obvious degradation to the system. It is advisable to use buffering where rapid disk file access, either reading or writing, is desired and EXCLUSIVE or SHARENF, shared access with no buffer flushing. SHARENF allows the user to access data files which are shared by other users but without the additional overhead in curred by the SHARE open mode. If you use SHARENF the data found in a given record could possibly change on disk between the time the record was read into the buffer and your program processed the record. When you do not require exact data in some reporting the SHARENF mode will give you much faster access than SHARE mode. In any case, use buffering where:*

1. *You are creating a new data file. (PREPARE is EXCLUSIVE.)*
2. *You can access a file EXCLUSIVELY.*
3. *You can access a file in SHARENF mode.*

*Review Chapters 5, 12, 13, 14 and 15 in the RMS DATABUS User's Guide, Document No. 50589, for more information on file access and handling in DATABUS.*

*———Ed.*

# A New Ribbon For the 45 CPS Printer



Datapoint has recently announced a nylon ribbon for use on the 9601/9602 45 CPS printer. This ribbon can be used in place of the existing mylar ribbons that are available.

In comparison, the two ribbons perform quite differently. The mylar ribbon gives you a substantially higher character resolution than the nylon ribbon. This makes it a good ribbon to use for documents and letters in which you need exceptional print quality. On the other hand, the nylon ribbon has a much longer print life than the mylar ribbon, since the ribbon is used over and over again. In fact, it produces good print quality up to 5 times longer than the mylar ribbon. If you're using a ribbon for a rough draft or for documentation that doesn't require superb print quality, the nylon ribbon will give you good print quality at considerable savings.

You can order the nylon ribbon, using Model Code 80497, through the Customer Support Center at the price of $12.75 each. Mylar ribbons, Model Code 80496, are also available at the same price.

# Austin Forms User Group

A Datapoint Users Group is being formed in Austin. Meeting dates haven't been set at this time, but if you're interested, please get in touch with one of the group's leaders, Fred Peterson, by calling or writing:

AUSTIN USERS GROUP
1615 A West 6th St.
Austin, Texas 78703
(512) 472-4283

# OFFICE COMMUNICATIONS

# Telephone Efficiency with Datapoint's ACD

Datapoint's Automatic Call Distributor (ACD) was introduced into Datapoint's product line as a full-featured automatic call distribution telephone switching system that provides complete management information collection and reporting. The ACD offers you a powerful, flexible management tool to control and measure high-volume call traffic.
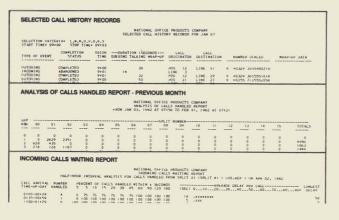
### Efficiency Starts at the Telephone

The ACD, a unit of Datapoint's Integrated Electronic Office, uses a micro-processor and mini-computer to perform real-time call processing from an intelligent switching subsystem. An agent instrument gives individuals a simple way to accept, place, and redirect telephone calls.

In operation, the intelligent switching subsystem recognizes an incoming call, determines from the line split which agent group should receive the call, and distributes the call to an available agent. A flexibile user-defined routing table determines how calls from each line split are processed. The routing table provides for many variations in procedure when the first choice agent group is busy.

Delays, recorded announcements, music-on-hold, distribution to another agent group, or distribution to another ACD are user-defined options that may be used. When the call has been processed, a call record is written on disk.

### One Company's Application

One company, Avis in Australia, put the ACD to work for them. "In the highly competitive Australian car rental business, we must be more efficient to produce better profits," says Gary Larkin, Avis National Sales Manager. "This starts right at the telephone. Research shows that people travelling by air want to be assured their booking has been made, that the car will be waiting at their destination, and that they can get it quickly when they arrive," Larkin states.

"When we looked at our reservations operations, it was obvious that they were inadequate for tomorrow's needs. Something had to be done urgently if we were going to be able to hold our premier position in a rapidly growing market."
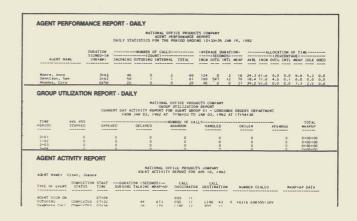
After Avis did some investigating, Datapoint's ACD came out ahead of other systems, offering the degree of control and measurement required with the necessary flexibility for future growth and change. "With the ACD, we are now able to answer our telephones quickly and to deal with the calls that come in. Previously, we knew that some people were getting tired of waiting for us to answer and were hanging up. Today we can tell, if necessary, minute by minute, how the calls are coming in, how long before they are answered, how many people have decided not to wait, and how long they have waited before hanging up. We also distribute calls to operators more equitably and can assess how busy or idle they are. Since the ACD was installed, we have noticed our telephone operators increasing in effectiveness."

### Real-Time Supervisor Control and Monitoring

A distinguishing feature of the ACD is the degree of flexibility and control provided for real-time supervision of the system. Video screen displays provide for agent group performance and status monitoring, telephone line status monitoring, and monitoring of the response (queue status) of calls waiting for service.

Management reports may be generated by the ACD on a variety of performance indicators, enabling management to supervise more closely and more effectively a multi-agent operation. The reports below are typical of those produced by the ACD.

For further information concerning the ACD, please contact your local Datapoint office.

# Datapoint Customer Education Schedule
## for May, June and July

Below is the schedule for Customer Education for the next couple of months. *The Customer Education Course Catalog,* Document No. 60269, contains course descriptions, prerequisites, education center information, and cost. Copies are available through your local Datapoint office. You can enroll for courses or get more information by calling the San Antonio number, (512) 699-7039.

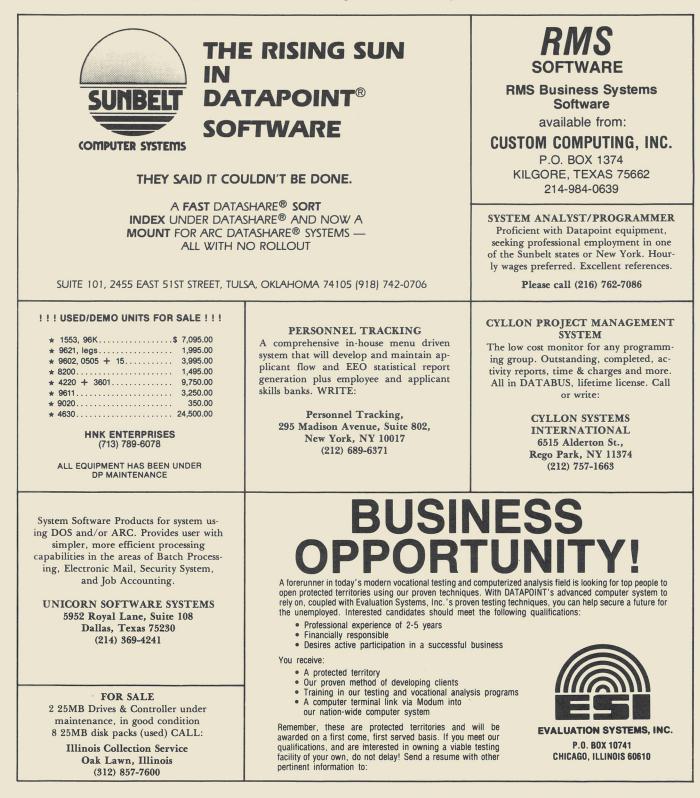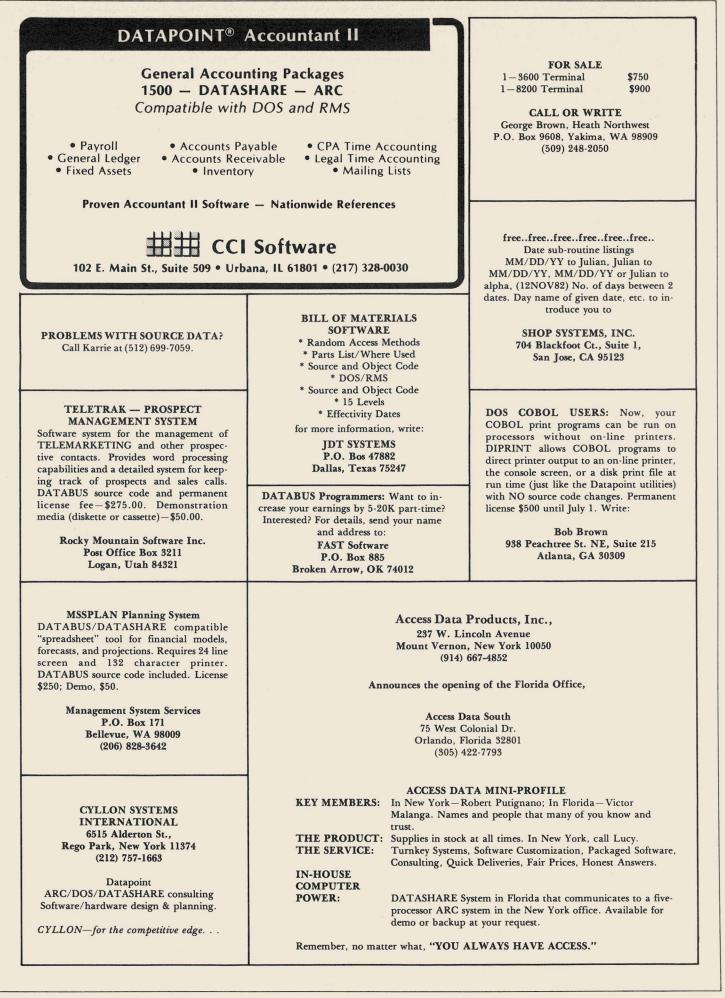| Course | Location / Starting Dates | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | San Antonio | Seattle | San Mateo | Denver | Chicago | Philadelphia | Atlanta | Washington D.C. | Boston | New York |
| Introduction to Datapoint Programming | 5/3 6/12 5/17 6/28 6/7 7/12 | 6/28 | 5/24 6/14 7/26 | 5/10 7/12 | | | 6/21 | 7/19 | | 5/17 6/21 7/26 |
| Disk Concepts and Operations | 5/3 6/21 5/24 7/12 6/7 7/26 | | 5/17 7/12 | 5/24 7/12 7/19 | | | 5/17 | | | 5/17 7/12 |
| Disk Operating System | 5/10 6/28 5/14 7/26 | 6/14 | | | | | | | | |
| Resource Management System™ Administration (RMSA) | 5/10 6/28 5/17 7/12 5/24 7/19 6/7 7/26 | | 5/3 7/12 | 6/14 | | | 6/14 | | 6/28 | 5/24 6/7 7/26 |
| Resource Management System (RMSB) Batch Job Facilities and Chain | 6/21 | | 6/28 | 7/26 | | | 7/12 | | | |
| DATASHARE | 5/3 6/28 5/24 7/26 6/7 | 6/7 7/19 | 5/10 5/24 6/21 | 5/24 6/28 7/19 | 5/24 7/26 | 5/3 7/12 | 6/28 | 5/24 7/26 | | |
| Advanced DATASHARE | 5/17 7/12 | | | 6/21 | 6/28 | | 6/7 | 6/21 | | |
| Attached Resource Computer (ARC) | 5/10 6/14 7/19 | | 5/3 | 5/17 | | | | | | |
| Basic Word Processing Concepts and Operations (WPI) | 5/10 7/12 6/7 7/26 6/21 | | 5/10 6/28 7/26 | 5/3 6/7 6/28 | | | 5/10 6/21 | | 6/14 7/12 | 5/3 6/14 7/19 |
| Advance Word Processing Concepts and Operations (WPII) | 5/3 6/21 5/17 7/19 | | 6/7 7/19 | 5/10 6/21 7/26 | | | 5/24 | | | |
| Electronic Message System (EMS)™ | 6/14 | | | | | | | | | |
| Basic LDCS™ | 5/24 7/26 | | | 6/7 | | | | | | |
| Advanced LCDS | 6/14 | | 7/19 | 5/17 | | | | | 6/28 | |
| Automatic Call Distributor (ACD) | 5/3 6/21 7/26 | | | | | | | | | |

# SOURCE DATA Advertising

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# SOURCE DATA Reader Reply Form

This is your space to send us questions, comments, criticisms, ideas, anecdotes, address corrections. Send to the address shown on reverse.

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SOURCE DATA #T41

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San Antonio, Texas 78284