## Table of Contents

<table>
<thead>
<tr>
<th>ISD Upgrades</th>
<th>o</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainframe to a 3090-400J</td>
<td>1</td>
</tr>
<tr>
<td>Self-Study Training Available through Helena Vo-Tech</td>
<td>2</td>
</tr>
<tr>
<td>1993 Information Technology Recognition Awards</td>
<td>3</td>
</tr>
<tr>
<td>Mainframe</td>
<td>3</td>
</tr>
<tr>
<td>Batch Jobs Submitting Batch Jobs</td>
<td>3</td>
</tr>
<tr>
<td>Common SAS Programming Problems</td>
<td>3</td>
</tr>
<tr>
<td>Term Contract Status</td>
<td>4</td>
</tr>
<tr>
<td>Microcomputer</td>
<td>4</td>
</tr>
<tr>
<td>Maintenance</td>
<td>5</td>
</tr>
<tr>
<td>TECHTALK</td>
<td>5</td>
</tr>
<tr>
<td>How Lotus 1-2-3 Uses</td>
<td>6</td>
</tr>
<tr>
<td>Extended/Expanded Memory</td>
<td>6</td>
</tr>
<tr>
<td>A Quirk in Lotus 3.1 Running on Certain DEC PC's</td>
<td>5</td>
</tr>
<tr>
<td>How to Remove Double Space with DOS 6.0</td>
<td>6</td>
</tr>
<tr>
<td>What's New in WordPerfect 6.0 for DOS</td>
<td>6</td>
</tr>
<tr>
<td>Windows--Two More Freebies</td>
<td>7</td>
</tr>
<tr>
<td>ZIP?Tips: &quot;Subject&quot; Field</td>
<td>7</td>
</tr>
<tr>
<td>Calendar of Events</td>
<td>8</td>
</tr>
<tr>
<td>End Notes</td>
<td>8</td>
</tr>
<tr>
<td>Submit Articles</td>
<td>8</td>
</tr>
<tr>
<td>ISD Network Assistance Center</td>
<td>8</td>
</tr>
<tr>
<td>444-2000</td>
<td>8</td>
</tr>
<tr>
<td>Training Information</td>
<td>9</td>
</tr>
<tr>
<td>Training Calendar</td>
<td>11</td>
</tr>
<tr>
<td>Data Network/Mainframe Classes</td>
<td>12</td>
</tr>
<tr>
<td>Microcomputer Classes</td>
<td>12</td>
</tr>
<tr>
<td>Word Processing Classes</td>
<td>15</td>
</tr>
<tr>
<td>Spreadsheet Classes</td>
<td>17</td>
</tr>
<tr>
<td>Database Classes</td>
<td>18</td>
</tr>
</tbody>
</table>

### ISD Upgrades

#### Mainframe to a 3090-400J

On October 10, 1993, ISD upgraded the IBM 3090-400E mainframe processor to a 3090-400J. The 400J has about 46% more processing capacity than its predecessor. The increased capacity stems from faster central processing units (CPUs) and the optimization of internal logic (instructions) for processing online workloads (CICS and IDMS).

What will you see? The amount of CPU time used by your jobs and online transactions will decrease. The improvement will be better for transaction processing than for batch jobs because of the optimization built into the processors for online work. Response times and job turnaround will also improve, depending on the amount of CPU time used.

#### MORE PROCESSOR STORAGE

We also increased the amount of processor storage on the 400J. The amount of central storage was doubled to 512 megabytes and the amount of expanded storage was also doubled to 512 megabytes. The 400J has one gigabyte of internal processor storage.

We typically increase the amount of processor storage on the mainframe whenever the central processing power is increased. The 400J is going to try to do more work than the 400E in the same amount of time. It will need more storage to do this work in. If we didn't provide the additional storage, we would be constraining the power of the faster mainframe.

#### FIBER OPTIC CHANNELS

We also ordered our first four "fiber optic" channels for the mainframe. Actually, the 400J...
is the first processor capable of handling them. These channels are also referred to as ESCON channels (Enterprise System CONneaction channels).

These channels will attach the 3490 cartridge tape drives to the mainframe to improve the performance of the tape processing. Data is currently transferred between the tape drives and the CPU at 4.5 megabytes/second. The use of the ESCON (fiber optic) channels will increase the data rate to 10 megabytes/second. The ESCON channels should be operational by the end of the year.

COST TO OUR USERS?

Okay, ISD just increased the speed and capacity of the mainframe, doubled the amount of storage on it, and added fiber optic channels. Sure, things are going to run better, but what will it cost you, as a mainframe user? Answer: NOTHING!!!

It is ISD’s intent that these improvements not cost our users any more than running on the 400E. But you will have to bear with us as we tweak the CPU rates to accomplish this. Here is the problem we have:

RATE CHANGES NECESSARY

Say you have a job that used 250 CPU seconds on the 400E. You run the same job on the 400J and it only uses 175 CPU seconds. ISD must increase the CPU rate on the 400J so that we bring in the same amount of money as before. In this case we would increase the rate by 42.8% (175 CPU seconds / 250 CPU seconds) . So, we should increase the CPU rate by 42.8%; it costs you the same, and ISD gets the income we need. Oh, if only life were so simple.

The problem is that different workloads show different degrees of improvement on the 400J. This is because many of the processing improvements are a result of internal logic improvements—certain instructions run better. A program that uses these instructions heavily will see a greater improvement than a program that seldom uses the enhanced instructions will.

So, for the next several weeks, ISD will be analyzing the CPU usage of applications and transactions running on the 400J. We will then choose new CPU rates that will minimize changes in the cost of doing work on the mainframe due to the 400J processor upgrade.

--Joe Beausoleil, Technical Services Section

Self-Study Training
Available through Helena Vo-Tech

The Information Services Division recently transferred its function of checking out self-study materials to the Helena Vo-Tech Center. Available at the Vo-Tech Library are computer-based training (CBT) and video-based training materials.

Self-study courses are becoming increasingly popular because of training budget reductions and the ability to train in-house. Employees can schedule a 2-hour period in the day that is convenient for them, and concentrate on learning only the functions of a particular software that they will be using most.

To check out materials for a 2-week period, go to the Helena Vo-Tech’s Library and present your State of Montana I.D. card. Several computer training courses are available, including: Teach Yourself WordPerfect, WordPerfect 5.2 for Windows, Lotus 1-2-3 for Windows, Typing Tutorials, Learning DOS, and Learning Windows. More computer-based training materials have been ordered and should be available by December. CBT titles currently on order include: How to Type, MS DOS 5.0, WordPerfect (Ver. 5.1 and 6.0), Lotus 1-2-3 (Ver. 2.4 and 3.1), and How to Use my 386/486.

For a complete listing of self-study materials currently available, please call or ZIP!Mail Lois Baker, Librarian, Helena Vo-Tech, at 444-6800.
1993 Information Technology Recognition Awards

The National Association of Information Resource Executives (NASIRE) has selected ten state government systems, initiatives, services or procedures for the award for Outstanding Achievement in the Field of Information Technology. They include Pennsylvania’s Statewide Automated Purchasing System; Kansas’s Executive Information System; New Jersey’s Child Support Hotline; and Oregon’s Oregon Connection, Touchscreen Kiosk, and Voice Response.

Write ups on the recognition award recipients and honorable mentions are published by NASIRE in a booklet available through ISD. There may be a system or contact that would be valuable to you. Better yet, maybe you have a project or initiative that you would like to nominate for the 1994 awards. Call Sharon Gorie at ext. 2918 for a copy of a booklet or more information about how to nominate your pet project.

Mainframe

Batch Jobs Submitting Batch Jobs

Did you know that you can submit a batch job from a batch job? Yep, and it can be very useful. You can easily control the order in which jobs run and/or the conditions under which they run. This can eliminate manual condition code checking before subsequent jobs are submitted and eliminate manual scheduling of jobs to insure they run in the proper order.

We have created a JCL procedure named "SUBMIT" to make this process extremely simple for you.

Example 1:
Submit a job from a partitioned data set named CA1111.TSOLIB.DATA:

//SUBSTEP EXEC
SUBMIT,DATASET='CA1111.TSOLIB.DATA(DAVESJOB)'

Example 2:
Submit a job from a sequential dataset named F42.DAVES.JOB:

//SUBMITIT EXEC
SUBMIT,DATASET='F42.DAVES.JOB'

You can add condition code checking to the EXEC statement to determine if the step should execute and thereby submit the job(s). Jobs submitted will inherit the ACF2 LOGONID of the submitting job unless the submitted job stream contains a */LOGONID and /*PASSWORD statement.

--Joe Beausoleil, Technical Services Section

Common SAS Programming Problems

Omitting a Semicolon

One of the most common programming errors is the omission of a semicolon at the end of a statement. The SAS log will usually list an error code 76, but it may list errors that do not seem to correspond to the actual mistake.

When checking code above any error message, look for possible missing semicolons. Without a semicolon, a statement may have been misinterpreted, and the error message may relate to a keyword that you did not intend to use.

Omitting the RUN Statement

Each step in a SAS program is compiled and executed independently from every other step and is executed when the end of the step is encountered. As a step is compiled, SAS recognizes the end of the current step when it encounters the next DATA or PROC statement (the beginning of a new step) or a RUN statement (the end of the current step). For SAS
programs executed in interactive mode, a RUN statement is required to signal the step boundary. For non-interactive or BATCH mode, the end-of-file for the program signals the step boundary for the last step in the job. Messages in the SAS log will indicate each step that has executed. If a step is shown at the bottom of the log that appears to have started but no notices are given (such as number of records read or number of observations and variables), it is possible that the step is still running. The status in the upper right of the program editor will also show "running" if it is hung. Simply submitting a RUN statement will correct this problem and end the step.

**Unbalanced Quotation Marks**

Unbalanced quotation marks will cause SAS to misinterpret statements in your program. A warning in the SAS log regarding strings being too long usually means that you have unbalanced quotation marks. While running interactively, correcting the unbalanced quotes and resubmitting your program usually does not solve the problem. Since the previous submission is effectively still running, the SAS System considers the new set of quotes to be unbalanced as well. You actually need an odd number of quotes to finish balancing them out. This is because when you have unbalanced quotes, the SAS System usually can't find a statement to resolve the current step. Again the "running" notice will be shown in the upper right corner of the program editor window. The step can be resolved by submitting the quote (single or double) followed by a RUN statement ('; run;).

**Unbalanced Block Comments**

The code */ begins a block of comment text and treats all following text as comments until the */; is encountered. If the */ is omitted, then the rest of the program is ignored. This usually is not a problem in interactive mode, since most people don't write many comments in interactive code, but code can be saved to a file and used repeatedly, and in this case should have comments included.

Here's a trick that will fix a suspected quote error and/or an unbalanced block comment:

Type: */; */; run; The quote (single or double) will resolve an unbalanced quote situation if needed; if not, the asterisk will treat the quote as a comment. The */; will end an unresolved block comment or else be treated as a comment itself. The run statement will complete the step; it won't hurt anything if it's not needed. Note that this trick will only resolve the step so it will run to completion; the output and log will have to be examined and the proper changes made for the step to run correctly.

For questions about SAS call Dave Howse (ext. 1593) or Jerry Kozak (ext. 2907), of End User Computing, ISD.

**Term Contract Status**

**Microcomputer**

**DEC**

Digital's marketing service, Wyle, has proposed a restructured sales support and service plan for the State. ISD is currently evaluating the proposal. This proposal will likely involve some changes with personnel, addresses, etc. We will strive to keep you forewarned of these changes.

**ComputerLand/IBM**

IBM is enjoying the tremendous demand for their Thinkpad series notebooks. However, as we all know from Economics 101, this is likely to present a supply shortage. This is currently the case, especially with the Thinkpad 720C and 750C.

ComputerLand has added several products to the term contract. Most notable is the recent addition of the PS/2 Server 85 models 466 and 433, and the PS/2 Server 95 models 560 and 466. Model 560 contains the new 64-bit Pentium processor.
Computerland/HP

Hewlett-Packard has introduced the HP Laserjet 4P and 4MP printers. The 4P will take the place of the IIIP, which has been discontinued. The 4MP works with both Macintosh and Microsoft Windows environments. HP also announced the addition of the HP DeskJet 310 for Notebook PC's. Call Brett (ext. 0515) for a copy of the latest products and prices. For technical questions or product availability, call Earl at Computerland (329-7660).

Maintenance

Reminder: To assure fast, efficient service, be prepared to offer the following information when you call in for maintenance: machine make and model, serial number, and location. IBM personnel will be able to quickly identify the machine, maintenance level, etc., and get the problem solved.

Several products have been added to the IBM maintenance term contract. The latest list has been distributed via ZipMail. If you would like a copy, contact Brett at ext. 0515.

TECHTALK

How Lotus 1-2-3 Uses Extended/Expanded Memory

1-2-3 Release 2.x uses expanded memory. If your PC has extended memory installed on it, you will need to use a memory manager for Lotus 1-2-3 to take advantage of the available memory. When using EMM386.EXE, which comes with DOS 5.0 and 6.0, you will need to add a RAM parameter along with the amount (in kilobytes) of extended memory you would like to be used as expanded memory for 1-2-3 to use (for example: RAM 1024).

1-2-3 Release 3.x uses extended memory also, so if you are not running any type of memory manager, then 1-2-3 will automatically recognize all the extended memory on your system. If you are running a memory manager, you may need to modify your configuration so that 1-2-3 can recognize all the available memory. The amount of memory which the memory manager is controlling is the only memory which 1-2-3 will use. When using EMM386.EXE, the amount of memory defined in the RAM paragraph is the amount of memory 1-2-3 will use. If you specify 1024, then 1-2-3 can only use 1024KB, even though you have more extended memory on your system. If you are running with a NOEMS parameter on the EMM386.EXE statement, in most cases 1-2-3 Release 3.x will not start.

If you have any questions concerning Lotus 1-2-3, please call Irv Vavruska at ext. 2858 or Jerry Kozak at ext. 2907, both from End User Computing.

A Quirk in Lotus 3.1 Running on Certain DEC PC's

It has been discovered that Lotus 3.1 does not operate correctly on some DEC machines. Asterisks are displayed in some of the cells. The column width in the top left hand corner of the screen shows that the column should be wide enough to display the data correctly. When you try to widen the column, the column will widen to 255 characters no matter what width you choose.

The /Worksheet Status screen also showed incorrect results. Starting 1-2-3 with a -s (case is important, this is a lower case -s, not an upper case -S) parameter seemed to clear up the problem. Lotus 1-2-3 automatically looks for a math co-processor upon startup whether or not the PC has one.

According to Lotus, strange display-related results can occur when 1-2-3 finds an incompatible math co-processor or if 1-2-3 interprets the math co-processor incorrectly. This parameter disables 1-2-3 from looking for a math co-processor. Lotus says that this will not affect the performance of 1-2-3.

If you have any questions concerning Lotus 1-2-3, please call Irv Vavruska at ext. 2858 or Jerry Kozak at ext. 2907, both from End User Computing.
How to Remove Double Space with DOS 6.0

If you are now using DOS 6.0's Doublespace disk compressor and want to remove it, here's an easy (but time-consuming) way. At the DOS prompt, enter DBLSPACE/LIST. In the CVF Filename column, the drive letter preceding the file name(s) similar to DBLSPACE.<nnn> is the uncompressed host drive. Delete unnecessary files from your local hard drive(s), including the windows swapfile, if any.

Change the directory on to each compressed drive, and enter DBLSPACE/SIZE to re-allocate its free space to its host drive. Then XCOPY as many files and directories as you can from each compressed drive to its host (XCOPY C:\*. H:\, for example). If you can't copy all of a compressed drive's files to its host, delete the files and directories you did copy, shrink that drive again using DBLSPACE/SIZE, and copy more files. If your hard disk is fragmented, it may be necessary to run DEFRAg. Repeat this procedure until the uncompressed drive holds all your files.

If you're removing a compressed C: drive, copy c:\command.com to the root of its uncompressed host drive. Then, for each host, log to the host's root directory and type Deltree DBLSPACE.* to remove its compressed drives. Remove references to DBLSPACE from your Config.sys and Autoexec.bat files, reboot your PC, and then run DEFRAg.

If you have any questions, contact Jerry Kozak at ext. 2907 or Irvin Vavruska at ext. 2858.

What's New in WordPerfect 6.0 for DOS

WordPerfect 6.0 for DOS is loaded with powerful new features and a unique graphical interface. The WordPerfect Corporation suggests a minimum of 520Kb free conventional memory, at least a 386 processor, and DOS 6.0 or memory management software to utilize all features of the product. WordPerfect 6.0 will run on a 286-based machine with 480Kb free conventional memory. However, you will not be able to use some of the advanced functions such as Graphics Mode and Page Mode.

Three display modes are available: Text Mode, Graphics Mode and Page Mode. Text Mode is most similar to that of WordPerfect 5.1 and should be used when you are just typing text. If you have an older computer, such as a 286, this is the mode to use, because it uses less than 480Kb of memory and will respond quicker with a 286 processor. Graphics Mode is preferred if you are using a lot of graphics or fonts in your documents. This mode requires a minimum of 480Kb of memory. Page Mode is used when you need to see everything (headers, footers, page numbering, margins, and graphics) just as it will print. Both Graphics Mode and Page Mode imitate WYSIWYG and allow the use of the "Zoom" feature (allowing text enlargement up to 300%).

WordPerfect 6.0 allows you to have nine documents open at once. Exiting out of the nine documents may seem like a headache, but you don't have to save and exit out of all nine documents separately. A dialog box allows you to exit out of some or all of the documents.

WordPerfect also keeps track of the latest documents that you have worked on. When you retrieve a document, WordPerfect presents a list of the last 4 documents you opened. To retrieve them, just click on the document name and it's retrieved for you.

Bookmarks and Quickmarks are a valuable enhancement. If you are working on a large document and need to refer to a certain section, you are able to place a "Bookmark" at that area. You can get back to that spot from anywhere in the document by selecting the bookmark from the Mark Text key. A "Quickmark" is placed automatically at the last spot your cursor was in when you exit your document. When you retrieve the document, simply press Ctrl + F5, and your cursor leaps to the place it was when you exited the document.

WordPerfect 6.0 allows you to put a filename code in a footer so that your document name is printed. If you change the name of the document, the filename code changes automatically.

Many documents have different formats for different pages. WordPerfect 6.0 developed "Delay Codes" which allow you to put all codes at the beginning of the first page that will affect
other pages of the document. Because they are at the beginning of the document, there is less chance of them accidentally being deleted.

WordPerfect 6.0 also offers a hypertext feature that can provide hypertext links to macros, other WordPerfect documents, or links that move you throughout a single document.

**Should We Upgrade?**

**ISD is providing full support for WordPerfect 6.0.** However, at this time, ISD is NOT recommending a full scale upgrade for State agencies. Due to the 520Kb conventional memory requirement, agencies running Network drivers and any variety of TSR's probably cannot realistically have that much free conventional memory. However, if users/agencies have the required hardware and free conventional memory and can benefit from the above features and enhancements or any others we haven't mentioned, then by all means upgrade!

ISD recently received an interim release for WordPerfect 6.0 that we have not had a chance to completely test and evaluate. Check next month's *News & Views* for more information on WordPerfect 6.0 for DOS or call Kyle Wynn at ext. 2859 or Sue Skukelch at ext. 1392, both of End User Computing.

**Windows--Two More Freebies**

End User Computing is making available two more free Windows utilities--**COMPOSE** and **PRINT CLIP**.

**COMPOSE** allows you to insert virtually any character or character string into a document by pressing just a 2- or 3-key sequence. The character(s) inserted can include any normal characters or even Windows' so-called UPPER ANSI characters that normally are not available from a PC keyboard. For example, you can use COMPOSE to produce the string:

"DEPARTMENT OF ADMINISTRATION" whenever you press the right ctrl key followed by the keystrokes DOA. You can use COMPOSE to produce accented characters from foreign languages and special characters, like the copyright symbol. COMPOSE comes with over 100 sequences predefined (like ctrl,D which inserts the current date into your document, or ctrl,C,O which inserts the copyright symbol), and you can define your own sequences. COMPOSE also provides the ability to insert a character from any installed font into your document, similar to the Windows Character Map applet, but easier to use. COMPOSE also provides an easy method to print samples of any or all fonts installed in your Windows system.

**PRINT CLIP** provides an easy way to do a "screen print" of the contents of the Windows clipboard to the default Windows system printer. With PRINT CLIP installed, all you need to do to get a printed copy of your current Windows screen is press "Print Screen" to copy the image to the clipboard, and then double click the PRINT CLIP icon to send that image to the printer.

Both of these utilities are free and take up a negligible amount of system resources. To get your copies, contact Denny Knapp of End User Computing at ext. 2072.

**ZIP!Tips: "Subject" Field**

When sending notes or documents, the "Subject" field is usually ignored. Yes, we know how easy it is to press Enter on the "Send" function and be done with the mail. However, it is important to go into the "Options" area and fill out the "Subject" field first.

There are several reasons for using the "Subject" field. Users of other E-mail systems don't have the luxury of ZIP!Mail's "Browse" feature. They can't determine from within their E-mail package what type of document you have sent. They must exit out of their E-mail, and fire up WordPerfect, Lotus, etc., to determine what type of document they have received. By filling in the "Subject" field, ZIP!Mail users can describe what is being sent (i.e., "WordPerfect 5.1 Document on Fiscal Notes").

If you complete the subject field when sending mail, the recipient will be able to quickly see the topic in their in-tray before the mail is opened. The "Subject" field should also be used when filing items in the Mail Libraries, to make later identification quick and convenient.
Some ZIP!Mail users have ZIP! alerts that pop up when they have received a message. If the "Subject" field is filled in, the user can determine the urgency of the message and either go into ZIP!Mail immediately or wait until they are finished with the current project they are working on.

If you have any questions on the "Subject" field or any other ZIP!Mail question, please contact Kyle Wynn at ext. 2859 or Sue Skuletich at ext. 1392, both of End-User Computing.

**Calendar of Events**

November 9 - Information Technology Advisory Council (ITAC) meeting, Room 104, Capitol Building.

November 10 - Information Technology Manager's Group (ITMG) meeting, Room 104, Capitol Building.

**End Notes**

**Submit Articles**

If you'd like to submit an article to *News and Views* for publication, please send it to Dan Mossman or Brett Boutin, preferably by ZIP!Mail. The following schedule provides dates that articles must be received by in order to be included in the corresponding issue:

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>December</td>
<td>11/19/93</td>
</tr>
<tr>
<td>January</td>
<td>12/17/93</td>
</tr>
</tbody>
</table>

**ISD Network Assistance Center 444-2000**

Have a problem? Need ISD assistance or support for any of your information processing needs—either voice or data? The central contact point is the ISD Network Assistance Center.

830 copies of this public document were printed at a cost of $264.

Distribution costs are $18.25.

30 copies of this document were distributed electronically at no cost.

Editors
Brett Boutin
Dan Mossman
All classes will be held in Room 210 at the Helena Vo-Tech Center at 1115 N. Roberts, unless another location is specified. Please note that these costs are subject to change each July 1st.

To enroll in a class, you must send or deadhead an enrollment application to the State Training Center, HVTC, Helena, MT 59601. If you have questions about enrollment, please call 444-6800. Once you enroll in a class, the full fee will be charged UNLESS you cancel at least three business days before the first day of class.

The classes available and their costs are as follows:

<table>
<thead>
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<th>Class Name</th>
<th>Cost</th>
<th>Length in Days</th>
</tr>
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<td>*MVS\ESA - Differences from MVS\XA</td>
<td>FREE</td>
<td>½</td>
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<tr>
<td>Introduction to TSO/SPF</td>
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</tr>
<tr>
<td>*Introduction to JCL (Job Control Language)</td>
<td>340.00</td>
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</tr>
<tr>
<td>*Introduction to CICS Programming</td>
<td>**</td>
<td>5</td>
</tr>
<tr>
<td>*Introduction to IDMS Database Programming</td>
<td>**</td>
<td>5</td>
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<tr>
<td>*IDMS ADS/Online</td>
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<td>*Introduction to CULPRIT</td>
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<td>*Windows for the Technical Support Team</td>
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<td>*Orientation to State's Computer Center</td>
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<td>*Introduction to IBM's Library Reader</td>
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* This class is not scheduled during the time covered in this issue.
Training Calendar

Data Network/Mainframe Classes

November 16, 17   Introduction to Novell Networking
November 30 a.m.   Introduction to IBM Library Reader
November 30 p.m.   Introduction to Quickref/Docview
December 9   Introduction to TSO/SPF

Microcomputer Classes

November 1   Beginning Microcomputer Skills
November 3 a.m.   CorelChart
November 3 p.m.    CorelShow
November 4   PC Memory Management
November 22   Introduction to DOS
November 23   Intermediate DOS
December 1   Introduction to Windows
December 7   Freelance for Windows
January 18   Introduction to Windows
January 19   PC Memory Management
January 25, 26   PC Maintenance

Word Processing Classes

November 8   Conversion to WordPerfect 5.2 for Windows
November 9, 10   Advanced Features of WordPerfect for Windows 5.2
November 18   Conversion to WordPerfect 5.2 for Windows
December 2   Introduction to WordPerfect for Windows
December 20   Desktop Publishing for WordPerfect for Windows
January 27 a.m.   WordPerfect Merge & Sort
January 27 p.m.    WordPerfect Macros
January 31   Introduction to WordPerfect for Windows

Spreadsheet Classes

December 14, 15   Introduction to Lotus
December 16   Conversion to Lotus 4.0 for Windows
January 10   Conversion to Lotus 4.0 for Windows
January 11   Intermediate Lotus

Database Classes

January 13   R:Base Query & Reports
INTRODUCTION TO TSO/SPF: presented by Denny Knapp of the Application Services Bureau

DATE: December 9, 1993
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: 3270nd (Interactive Class on Terminal Operation)
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

"Introduction to TSO/SPF" is a hands-on workshop about using computer terminals (or PC terminal emulators) and the SPF editor. SPF is an easy-to-learn, menu-driven system used to enter data and programs into the State's mainframe computer. Entering data, changing data and submitting programs (jobs) for execution are covered in detail. Also covered are SPF's utility functions and the tracking of job output.

This course is essential for state government personnel using terminals or PC's linked to the State's central computer. It is a prerequisite for many other ISD classes.

PC MAINTENANCE: presented by the staff of the Helena Vo-Tech

DATE: January 25 and 26, 1994
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Working knowledge of DOS
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This course is designed to give participants insight into normal routine maintenance of the personal computer. Topics covered will be internal diagnostics, add-on cards, memory management, systems upgrades, hard disk performance tips, and routine troubleshooting techniques.

MEMORY MANAGEMENT: presented by the staff of the Helena Vo-Tech Center

DATE: November 4, 1993
January 19, 1994
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Intermediate DOS and Introduction to Windows
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class will students an opportunity to work with memory configurations on the PC. Extended memory and expanded memory will be discussed. Other topics covered will be device drivers, disk caches, RAM disks, and configuring Windows. Some time will also be spent on interactive batch files.
BEGINNING MICROCOMPUTER SKILLS: presented by the staff of the Helena Vo-Tech Center

DATE: November 1, 1993
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Intermediate DOS and Introduction to Windows
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This course will give participants brief hands-on experience with microcomputers. The following topics will be covered:

- The Machine
- The Operating System
- Word Processing
- Spreadsheets and Graphics
- File Management
- Communications

Most class time will be spent using microcomputers and software. This course helps develop a positive attitude toward using microcomputers and teaches their basic functions. This class—or its equivalent—is a prerequisite for our other microcomputer courses.

FUNDAMENTALS OF DOS: presented by the staff of the Helena Vo-Tech Center

DATE: November 22, 1993
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Beginning Microcomputer Skills
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

"Fundamentals of DOS" is intended for microcomputer users who need to know more about controlling the microcomputer through its operating system. Programming experience is NOT required. Topics to be covered include:

- What is DOS? Why is it necessary to know about it?
- DOS names for peripherals
- File naming
- Set-up files such as CONFIG.SYS
- Internal DOS commands - DIR, ERASE, RENAME, TYPE, COPY and their variations
- External commands - FORMAT, SYS, DISKCOPY, CHKDSK, MODE
- Interpreting batch files
- Backup procedures

INTERMEDIATE DOS: presented by the staff of the Helena Vo-Tech Center

DATE: November 23, 1993
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Fundamentals of DOS or equivalent
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class is designed to follow the "Fundamentals of DOS" class and to give the user a better understanding of and increased ability to use DOS. It is not designed for programmers and does not cover all the advanced features of the operating system. The following topics are covered:

- ATTRIB
- JOIN
- Batch File Creation
- LABEL
- EDLIN
- MODE
Batch file commands
- DISKCOMP
- Filters (FIND, MORE)
- REPLACE
- SELECT
- XCOPY

INTRODUCTION TO WINDOWS: presented by the staff of the Helena Vo-Tech Center

DATE: December 1, 1993
January 18, 1994
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Beginning Microcomputer Skills or three months of daily microcomputer use
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This course is a general introduction to Windows. It will cover the basics and show how Windows makes other applications easier to use and more productive. Topics will include:

- What are Windows - multi-tasking and task switching
- Using DOS applications
- Using Windows accessories and features
- Screen, window and menu navigation
- Window sizing and movement
- Customization

This course will not include training for system administrators and programmers. It will not cover Windows installation, maintenance or advanced features such as use for programming and file/directory management.

FREELANCE GRAPHICS FOR WINDOWS: presented by the staff of the Helena Vo-Tech Center

DATE: December 7, 1993
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Beginning Microcomputer Skills
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class will give participants hands-on experience using Freelance for Windows to create many types of figures, drawings, graphs and screen shows. Students will learn to use Freelance's symbol library and freehand drawing capabilities and to link data from Lotus 1-2-3 spreadsheets to create a publication-quality chart or graph.

CORELSHOW 3.0 FOR WINDOWS: presented by the staff of the Helena Vo-Tech Center

DATE: November 3, 1993
TIME: 1:00 p.m. to 4:30 p.m.
PREREQUISITE: Familiarity with DOS, Windows, and CorelDRAW
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class will give users of CorelDraw an opportunity to continue to build expertise in the component of CorelSHOW! Students will learn to integrate drawings, charts, and other art for the purpose of creating a presentation. The presentation could be a computer screen show or a timed display. The presentation could also be recorded on slides, overhead transparencies, or paper.
CORELCHART 3.0 FOR WINDOWS: presented by the staff of the Helena Vo-Tech Center

DATE: November 3, 1993
TIME: 8:30 a.m. to 12:30 p.m.
PREREQUISITE: Familiarity with DOS, Windows, and CorelDRAW
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class will give users of CorelDraw an opportunity to continue to build expertise in the component of CorelCHART. Students will learn to create up to 12 basic chart types using data imported from spreadsheet and database programs, or entered directly into CorelChart. The charts will then be imported into CorelDraw for presentations or publications.

Word Processing Classes

WORDPERFECT MERGE AND SORT FUNCTIONS: presented by the staff of the Helena Vo-Tech Center

DATE: January 27, 1994
TIME: 8:30 a.m. to noon
PREREQUISITE: Introduction to WordPerfect 5.0 or 5.1
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class will cover the file merge and sort features of WordPerfect. Students currently using WordPerfect 5.0 or 5.1 will have hands-on practice with the steps needed to generate files sorted in a variety of ways. They will also learn to merge primary and secondary files for mass mailings, for example, and to set up files for keyboard merges.

CONVERSION TO WORDPERFECT 5.2 FOR WINDOWS: presented by the staff of the Helena Vo-Tech Center

DATES: November 8, 1993
November 18, 1993
TIMES: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Introduction to WordPerfect and Introduction to Windows
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class is designed for persons who are experienced with WordPerfect. It will cover the functional differences between WordPerfect for DOS and WordPerfect for Windows Version 5.2. An emphasis will be placed on the graphic user interface elements which make WordPerfect for Windows look and feel like other Windows products. Some of the many new features to be demonstrated include: pull down menus, pop-up lists, dialog boxes, Button Bar, and the File Manager.
WORDPERFECT 5.1 MACROS presented by the staff of the Helena Vo-Tech Center

DATE: January 27, 1994
TIME: 1:00 p.m. to 4:30 p.m.
PREREQUISITE: Introduction to WordPerfect 5.0 or 5.1
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This is a seminar class that will cover the theory and construction of basic WordPerfect macros. Class will begin with simple hot key and named macros and proceed through the introductory level of the macro language. Special macros will be created such as capturing inside addresses for printing envelopes and building simple menus for lists of commonly used tasks. Students are encouraged to bring examples of tasks for instructor assisted class projects.

INTRODUCTION TO WORDPERFECT 5.2 FOR WINDOWS: presented by the staff of the Helena Vo-Tech Center

DATES: December 2, 1993
January 31, 1994
TIMES: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Beginning Microcomputer Skills and Introduction to Windows
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class is designed as a basic introduction to WordPerfect for Windows. Experience with WordPerfect is not necessary. Participants will go through the fundamentals of creating, formatting, editing and printing documents. Some advanced features will also be covered, including spell checking, searching for words or phrases, marking blocks of text, moving text and listing/retrieving document files.

DESKTOP PUBLISHING WITH WORDPERFECT FOR WINDOWS 5.2: presented by the staff of the Helena Vo-Tech Center

DATE: December 20, 1993
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Introduction to WordPerfect for Windows 5.2
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class will combine all the essential elements of desktop publishing--text, graphic images, and page design and layout--to create and print professional-looking documents. Students will work with fonts and type sizes, kerning, multicolumn formats, graphic lines, graphic boxes, and graphic images. Also covered will be use of the scanner to produce graphic images.
Spreadsheet Classes

INTRODUCTION TO LOTUS 1-2-3, RELEASE 2.4: presented by the staff of the Helena Vo-Tech Center

DATE: December 14 and 15, 1993
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Beginning Microcomputer Skills
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class is a generic introduction to Lotus 1-2-3 for persons with little or no Lotus experience. It will consist of instructions and hands-on practice, with lab time available for building spreadsheets of the participants' choosing.

The class will cover design, creation, printing and editing of spreadsheets. Additional topics will include selected graphic features, the use of formulae to connect spreadsheets, and the opening of multiple files at the same time. Students will learn about new WYSIWYG (What You See Is What You Get) features of Releases 2.3 and 3.1 such as enhanced printing of spreadsheets and graphs.

INTERMEDIATE LOTUS 1-2-3, RELEASE 2.3 OR 3.1: presented by the staff of the Helena Vo-Tech Center

DATE: January 11, 1994
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Introduction to Lotus 1-2-3
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This course is intended for users of Release 2.3, 3.1 or 3.1+. It covers intermediate features of Lotus 1-2-3 for those who are familiar with Lotus basics. It consists of instructions and hands-on practice, with lab time available for building spreadsheets of the students' choosing.

The following topics will be presented:

- @ functions
- Date and time formats and functions
- Ranges--naming, hiding and protecting ranges; using range commands
- Global defaults
- Titles, windows and text editing

Time permitting, the following topics will be covered with some hands-on practice:

- Selected file functions and file linking
- Magellan Viewer Addin (available in Releases 2.3 and 3.1+ only)
- Auditor Addin (available in Releases 2.3 and 3.1+ only)
CONVERSION TO LOTUS 4.0 FOR WINDOWS: presented by the staff of the Helena Vo-Tech Center

DATES: December 16, 1993
TIMES: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Introduction to Lotus, Introduction to Windows or equivalent
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class is designed for persons who are experienced with Lotus. It will cover the functional differences between the DOS version of Lotus and Lotus for Windows Version 4.0. An emphasis will be placed on the graphic user interface elements which make Lotus for Windows look and feel like other Windows products.

Database Classes

R:BASE QUERY AND REPORTS, RELEASE 3.1: presented by the staff of the Helena Vo-Tech Center

DATE: January 13, 1994
TIME: 8:30 a.m. to 4:30 p.m.
PREREQUISITE: Introduction to R:Base
LOCATION: Helena Vo-Tech Center, 1115 North Roberts, Room 210

This class will expand on report writing topics covered in "Introduction to R:Base." Topics include writing reports using breakpoints and R:Base functions. Also covered will be more information about queries and views as they relate to reports.
CLASS ENROLLMENT APPLICATION
COMPLETE THIS APPLICATION IN FULL AND SUBMIT IT AT LEAST
ONE WEEK PRIOR TO THE FIRST DAY OF CLASS

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How have you met the required prerequisites for this course? Explain, giving the class(es) taken, tutorial(s) completed, and/or experience.

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FULL CLASS FEE WILL BE BILLED TO THE REGISTRANT UNLESS CANCELLATION IS MADE THREE BUSINESS DAYS BEFORE THE START DATE OF THE CLASS.

DEADHEAD OR MAIL COMPLETED FORM TO:

HELENA VO-TECH CENTER
COMPUTER TRAINING CENTER
1115 NORTH ROBERTS, HELENA 59601
FAX 444-6892