

A PROTOTYPE COMPUTER BASED TUTORIAL
FOR THE USE OF HIGHWAY PATROL RADAR GUNS

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REPORT FOR PROJECT MPC-004

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EXECUTIVE SUMMARY

The software contained in this package, termed POSAT (Police Officer Standards and Training) is the prototype knowledge-base decision support system developed specifically for the Utah State Police Academy.

All police officers must be certified annually for the use of radar guns. This self-study computer program is intended to reduce the cost of providing field training for hundreds of police officers each year. By installing the POSAT software at remote locations, police officers within a certain district need only to travel to the nearest remote testing sight to take the exam and renew their radar certification. POSAT automatically transmits the exam results to the mainframe computer located in Salt Lake City, where they can be evaluated, and notices of valid re-certification can be distributed to the officers who took the exam.

POSAT was constructed from a custom designed expert system kernel using object oriented technologies and languages (C++). The kernel is completely event driven, and operates under rule, action, and variable objects. Each of the objects derive their knowledge from either user input, or external modules that provide the knowledge automatically (via fact bases, or remote data bases). POSAT was then implemented under the Microsoft Windows operating system. As a result, the software can administer intelligent exams and context sensitive advice through the expert system kernel, as well as take advantage of the friendly interface inherent to Windows programs, multimedia support such as digitized photos, movie clips, animation, and other forms of interactive teaching methodologies that are not available in other environments.

This manual briefly describes the features in POSAT. It explains how to install the program on your computer system, and how to start and quit the program. It also includes information about the screens you will see and the appropriate responses needed to navigate the program.

This manual assumes that you are familiar with the basic terminology and procedures for using Microsoft Windows version 3.1 or later. It also assumes that you have set up the Windows operating environment on your computer system.

C H A P T E R

1

Getting Started

Hardware and Software Requirements

To use POSAT for Windows, your computer must meet the following requirements:

- A DOS 3.30+ system computer with an Intel 386 microprocessor or greater, with a hard drive and a 1.2 MB or greater floppy disk drive.
- 2 MB of RAM. Microsoft Recommends 4 - 8 MB of RAM for best Windows results.
- A VGA graphics adapter and supporting monitor, preferably with 256 color capability. POSAT is capable of utilizing both 16 and 256 color displays. Graphics, however, will suffer slightly under 16 colors as they have to be dithered in order to maintain color resolution.
- Microsoft Windows **version 3.1** or later.
- Microsoft or IBM PS/2 compatible mouse.
- **(Optional)** Sound Blaster or Pro Audio Spectrum sound board. If you have a sound board you will be able to hear certain digitized sounds built into the program.

Installing POSAT

To install POSAT follow these steps:

To Run Install:

1. If Windows is not already running, type **win** at the DOS prompt.
- or -
If Windows is running, close any open applications.
2. Insert the POSAT disk into drive A (or drive B).
3. From the FILE menu (on the Program Manager), choose RUN.
4. In the Command Line box type **a:install** (or **b:install**) and then press ENTER (or click OK).
5. Wait for the install routine to load into memory. When the POSAT Install window appears you will be given an Installation Information dialog that you must fill out. You must specify what the destination and source drives are for the installation, as well as optional name and business information.

6. The first field is the source directory. To accept the drive that Install proposes, press TAB.

- or -

If you are installing from another source, type the appropriate path in the field, and press TAB.

If Install detects that the source drive and path are invalid, it will tell you so and give you the opportunity to correct the problem.

7. The second field is the directory name to install POSAT. To accept the path that Install proposes, press TAB to go to the next field.

- or -

If Install detects that the directory in the path already exists, you will be asked to enter a new directory and name. *If you do not, all contents similar to the POSAT program will be over-written.* If you have an older version of POSAT we suggest you install the new version over top of it.

8. Install will take about 1 minute to read the diskette. This time will vary depending on your computer configuration.
9. Once all the files have been installed, Install will create a Radar Applications group and a POSAT icon in the Program Manager.
10. Installation Complete! You are now ready to run POSAT!

Starting and quitting POSAT

If you are new to Windows, refer to your windows documentation and tutorials to learn the Windows fundamentals before you begin your work with POSAT.

STARTING POSAT

You can start POSAT by double clicking on the Radar Applications group, and then double clicking on the POSAT icon found inside the group. You will be presented with the Main Menu Window as discussed in Chapter 2.

QUITTING POSAT

You can stop the POSAT application by double clicking on the system menu, or single clicking on the system menu, and choosing Close.

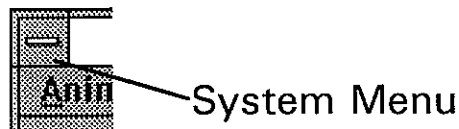


Figure 1. The System Menu found on all main application windows.

CHAPTER

2

The Main Application Screen

POSAT Base Application Screen

Once you have started the POSAT application by double clicking on its icon, you will be presented with the Main Menu window shown in Figure 2.

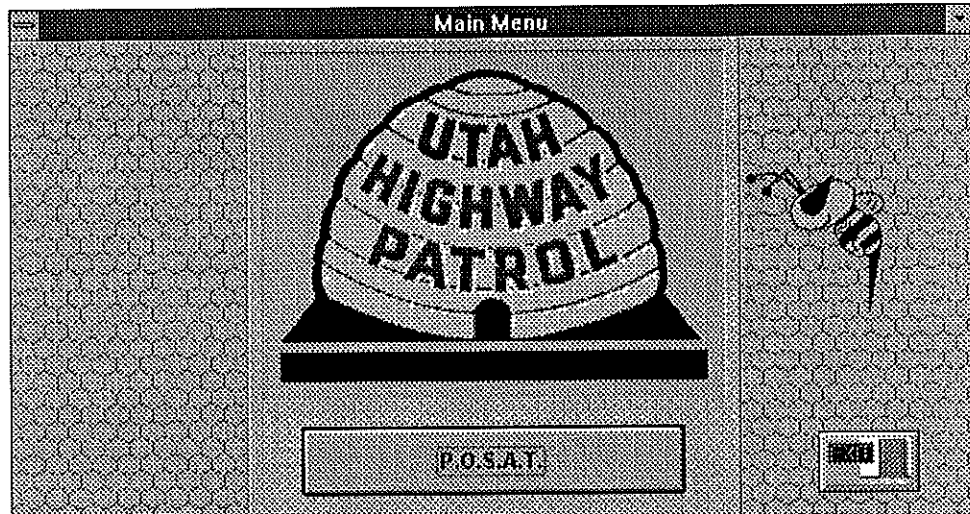


Figure 2. The Main Menu window of POSAT.

This window simply serves as the base application for the certification exam. You start the exam by clicking on the P.O.S.A.T button pictured above. When you complete or exit an exam, you will be returned to this window.

To exit this window, you can double click the System Menu as described in Chapter 1, or click on the EXIT button pictured above, and you will be returned to the Program Manager.

C H A P T E R

3

TAKING THE EXAM

The Exam Startup Sequence

When you click on the P.O.S.A.T button on the Main Menu window, POSAT will begin its startup sequence. This sequence includes the following steps (some optional depending on the startup environment).

1. The 'Load Meters' will appear and fill up. (always occurs)
2. The 'No Fact Base' warning message appears. (optional)
3. Queries begin. (always occurs)

Load Meters:

The load meters appear as shown in Figure 3. These show the time it takes POSAT to load the 3 part data base POSAT uses to answer and ask questions, provide help, etc. The time it takes for these meters to fill can vary by large degrees depending on the configuration and CPU speed your system is capable of.

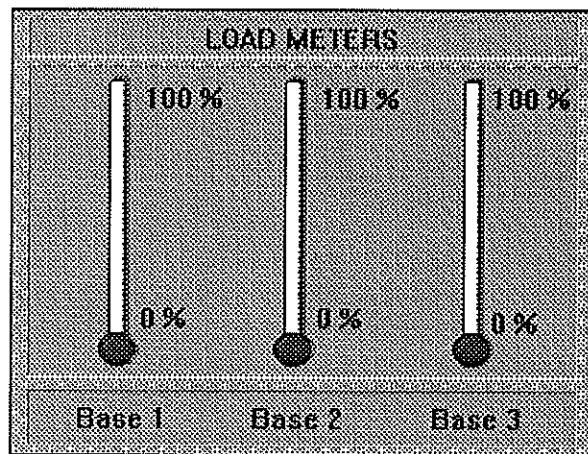


Figure 3. Example of Load Meters box.

Fact Base Warning:

The 'NO FACT BASE' warning may or may not occur under the POSAT expert system. If you are using a demo version of POSAT, this dialog will not appear. If you are using the actual exam version, the dialog will appear.

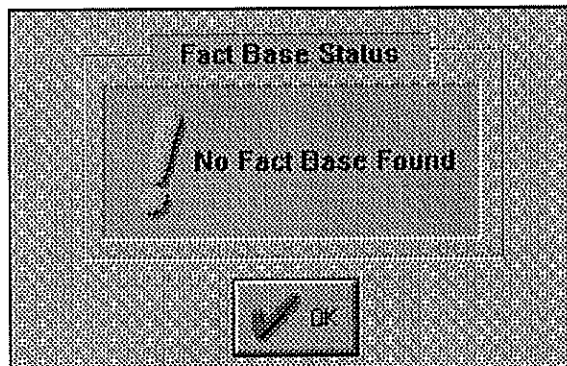


Figure 4. Fact Base warning.

Queries Begin:

When POSAT is done loading the exam, it will present you with the first question in a Query Dialog, as shown in Figure 5. The first question gives you the choice of what exam you wish to take. For this version, only the RADAR CERTIFICATION EXAM is active. Clicking on any other choice will simply start up the RADAR CERTIFICATION EXAM.

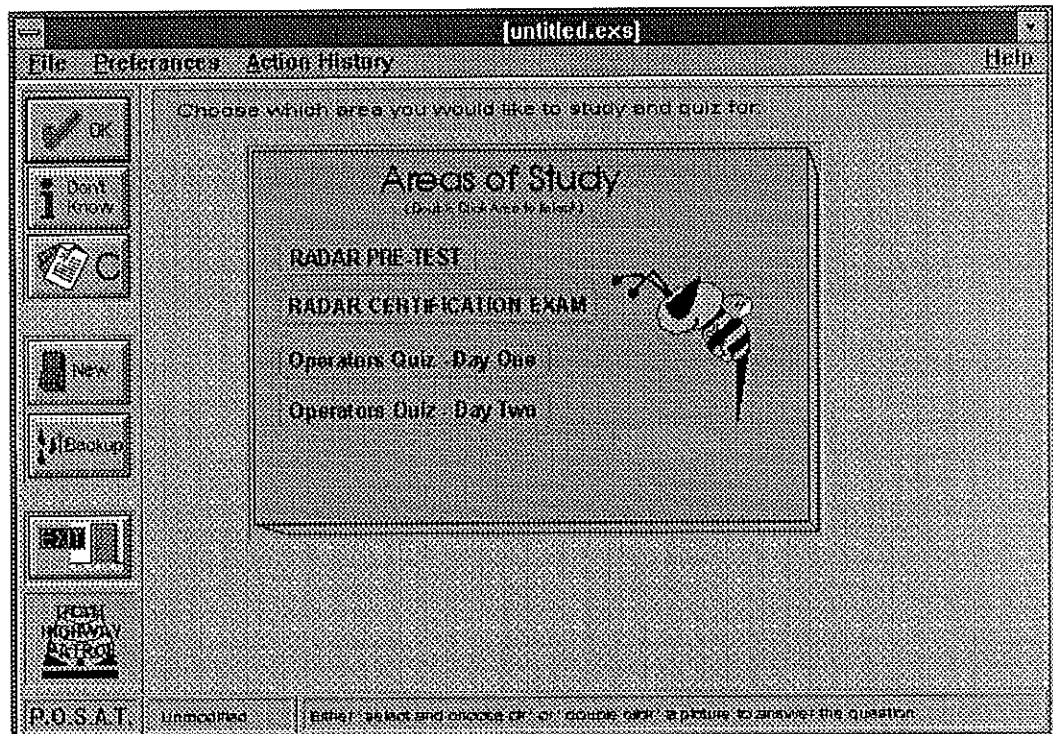


Figure 5. Example Query Dialog.

The window pictured above will change its appearance depending on what type of question is being asked. As you take the exam, you will see many different types of questions and displays.

Answering questions

How you answer a question physically (i.e. what mouse actions are needed) may vary depending on what type of question is presented. Some questions require you to click on a picture or within a box (as in Figure 5), while others require you to enter a number value, and others require you to choose from a list of items (see Figure 6). In any case, the objective is to select an answer and continue to the next question.

There are two methods by which you can answer a question via the mouse:

1. Move the mouse pointer over the answer you want to choose. SINGLE click the answer. This action will highlight the answer. Now, to register the choice with POSAT, click the OK button to the left of the question. If the answer was correct, you will continue to the next question.
2. Move the mouse pointer over the answer you want to choose. Double click the left mouse button. This will register the answer with POSAT, and if correct, will bring you to the next question. *This is often much faster than using option 1 as a means of answering a question, as it eliminates the need to click the OK button.*

Figure 5 is the first question asked and is an example of a visual query. You answer it by clicking inside one of the boxes.

Figure 6 is the first question of the Radar Certification Exam. It is an example of a multiple choice question, the type most common in the POSAT training system.

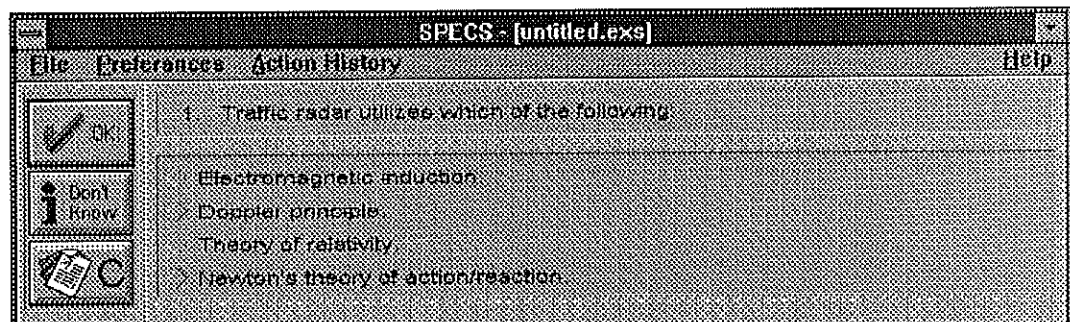


Figure 6. The First Multiple Choice Exam Question.

Answering questions incorrectly

The chances are, considering this is a training exam, that you will enter an incorrect answer from time to time. What makes POSAT better than an exam taken on paper is the fact that it can detect the mistake immediately, let you know, and give you the opportunity to review tutorial information and retry the question!

Remember, this is a training module, so retrying the question is OK. POSAT also has a final exam module, where you only have one chance to answer, just as a real final exam would be.

When you answer a question incorrectly, POSAT will present you with the dialog pictured in Figure 7.

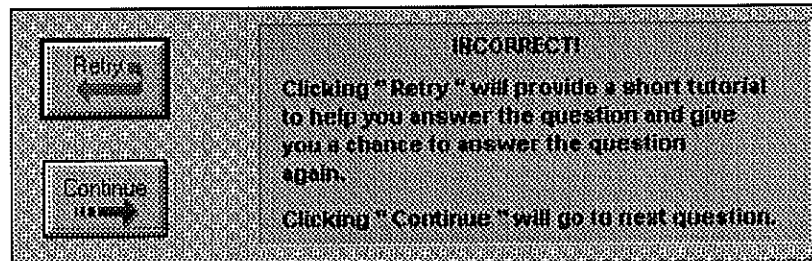




Figure 7. Dialog presented when a question is answered incorrectly.

As is explained in the dialog itself, Clicking " Retry " will provide a short tutorial to help you answer the question. When you have finished reviewing the tutorial, you will be returned to the question and given another chance to answer correctly. You are afforded as many retries as you need. However, POSAT does keep track of your progress, and penalizes you for incorrect answers.

Clicking on " Continue " will continue to the next question.


FYI  Refer to Chapter 5 for information on the tutorial windows that appear when you chose the "Retry" option.

FYI  Refer to Chapter 6 for information on how POSAT logs and scores incorrect answers.

Getting help before answering a question

Occasionally you may not be able to answer a question, or even hazard a guess, because you simply don't know how. POSAT provides you with a means to get help immediately by the simple press of a button!



By clicking on the DONT KNOW button, , (the 'i' stands for [i]nformation), you will be presented with a tutorial window providing various types of information to help you answer the question.

FYI  Refer to Chapter 5 for more information on tutorial windows.

C H A P T E R

4

EXAM WINDOW COMPONENTS

This chapter explains the various components you see on the exam window, including each of the buttons on the left of the window, the menu bar found at the top, and the status bar located at the bottom of the window.

The button panel

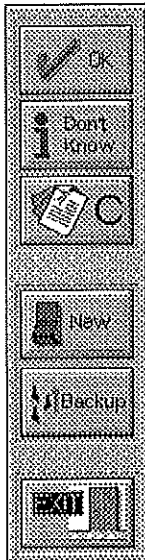
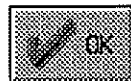


Figure 8.

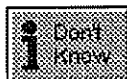
The button panel (see Figure 8) is the series of six buttons located to the left of each question in the exam window. The button panel is used to register answers with POSAT, get help, start a new exam, and otherwise maneuver within an exam.

OK button:



As described in Chapter 3, *Answering Questions*, clicking on the OK button registers your answer with the POSAT program. Note that an error message will appear if you do not select an answer first by single clicking on it first.

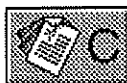
DON'T KNOW button:



When you press this button, a tutorial window will appear giving detailed information to help you better answer the question. When you are done viewing the tutorial you are returned to the question where you can make an educated selection. You can press the DON'T KNOW button as many times as you need, and will always be returned to the same question. If no help is available, a "No Text Available" message will appear.

FYI  Refer to Chapter 5 for more information on tutorial windows.

COMMENT button:



This button allows you to create a log of the questions asked, how you answered them, and why. This button is used as an alternative to the OK button. In order for this button to function properly, you must have Microsoft Word installed on your computer. POSAT will use this application (if present on your system) to create a

dynamic data exchange link (or DDE link) and will actually transmit the question, and your answer to the Word application, where it will appear in a document.

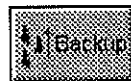
FYI  Refer to Chapter 7, *CREATING A PROGRESS LOG* for a full description of this buttons function.

NEW button:



This is exactly the same as choosing the FILE | NEW menu item, and is discussed later in the chapter under *THE POSAT MENU BAR, Creating a New Session*.

BACKUP button:



If at anytime you prefer to answer a question differently, but have already passed it, you can press the BACKUP button. This will produce the dialog shown in Figure 9 asking you how many questions you would like to back up. "HOT" buttons 1 - 10, and the "Return to First Question" button are provided to save you the trouble of typing in the number into the field, although you are not restricted to backing up 1 to 10 questions. For example, if you need to back up 25 questions simply type the number into the field and click the OK button. POSAT will backup to the desired question.

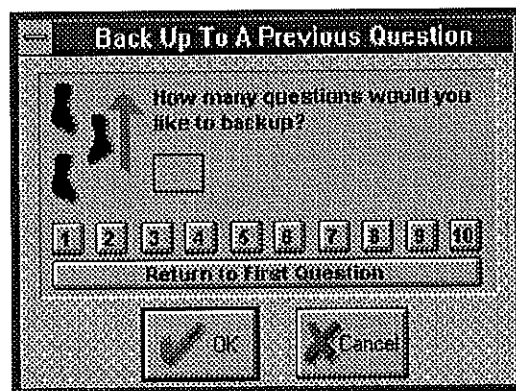



Figure 9. Backup inquiry box.

EXIT button:



This button will exit the POSAT exam. If you have not completed the exam, POSAT will ask you to save your current session. If you do save your session, you can load it back and start from your stopping point the next time you run the training module.

FYI  See the section later in this chapter, *THE POSAT MENU BAR*, for a description of saving and loading sessions.

Drop-Text button:

The exam window has space to display 3 lines of the question. If the question exceeds 3 lines, a "Drop Text" button (shown below) will appear to the right of the question.



When such an event occurs pressing this button will display the rest of the question, as shown in Figure 10a and 10b.

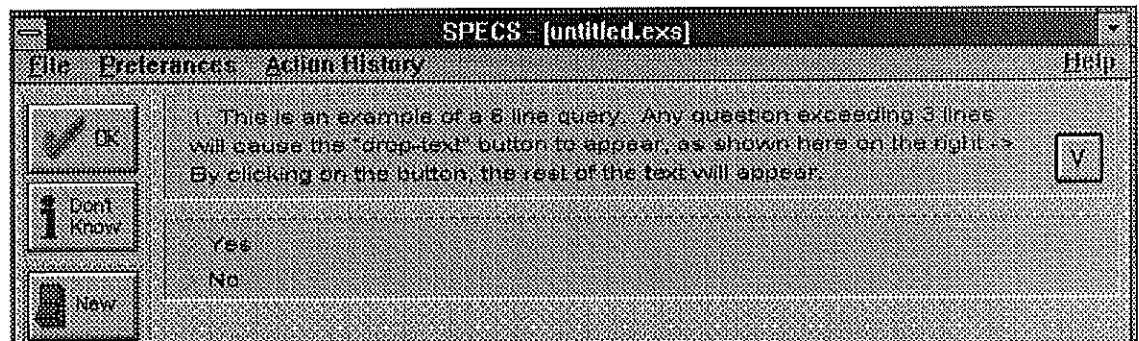


Figure 10a. Example of 6 line question exceeding 3 line limit and the 'drop text' button.

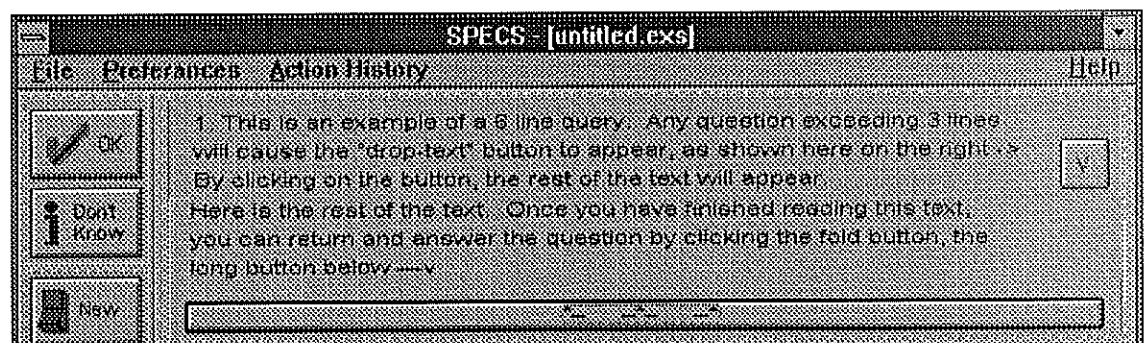


Figure 10b. Example after the drop text button is pressed.

THE POSAT MENU BAR

The POSAT menu bar is the means by which you save and open sessions, change environment preferences, and peruse previously shown text.

The File Menu

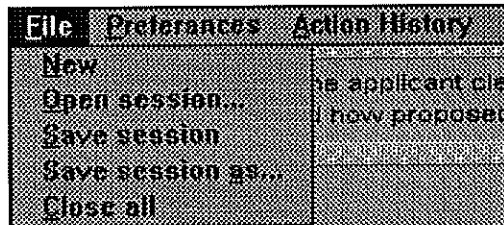


Figure 11. The File Pop-Up Menu.

Saving a POSAT Exam

At any time during a POSAT session you can save your position. You can think of a POSAT session much as you would a document in a word processor or spreadsheet. When you first start POSAT, you are presented with a new, unmodified session (as is shown by the status bar at the bottom of the input window reading "Modified" or "Unmodified"). The session does not have a name (as is shown by the title bar on the input window) until you give it one. As soon as you answer the first query, the session is considered modified, and the status bar will change accordingly. Once your session is modified, you can save it by choosing the FILE | SAVE SESSION menu as shown in Figure 11.

When you choose FILE | SAVE SESSION one of two things will occur:

1. If the current session is **modified**, but as yet **untitled**, you will be prompted for a name to save the session under as shown in Figure 12.
2. If the current session is **modified**, and **already has a title** (as the result of a previous save), POSAT will automatically save the current position under the current session name. In order to NOT save over a previously saved session, you must use the FILE | SAVE SESSION AS... menu option to give the current session a different name!

When you choose FILE | SAVE SESSION AS... one step will always occur:

- 1) You will be prompted for a name to save the current session under as shown in Figure 12. The name you specify will become the new session title, and all resulting FILE | SAVE SESSION operations will automatically save to the new session name.

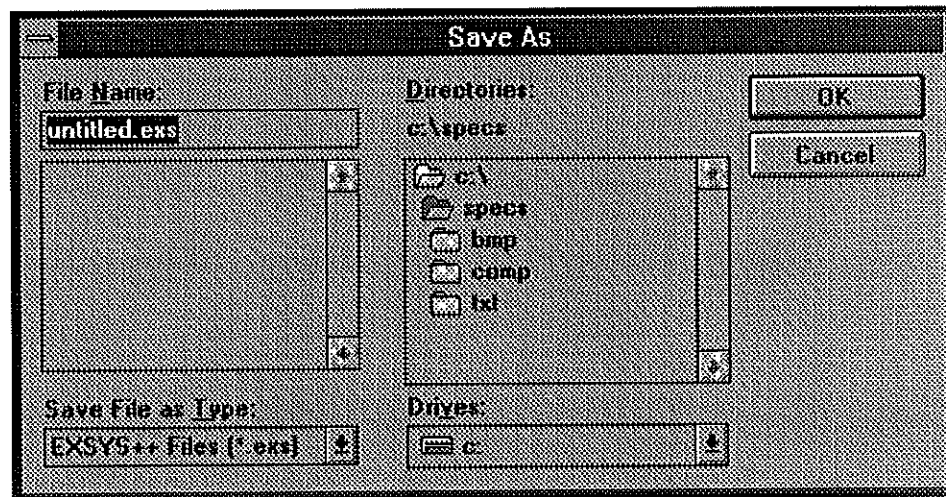


Figure 12. The Save As dialog prompting for a session title to save to

Once a session has been saved, its status will change to "Unmodified". As soon as you take some action, such as answering a query, its status will again return to "Modified".

Opening A Previous Session

At any time during a POSAT session you wish to load a previously saved session, you may do so by selecting the FILE | OPEN SESSION... menu item.

When you select the FILE | OPEN SESSION... menu item, one of three things will occur:

1. If the current session is **unmodified**, you will be prompted for a session name to open as shown in Figure 9. Either type or select the new session name to open, and click OK. The new session will be opened.

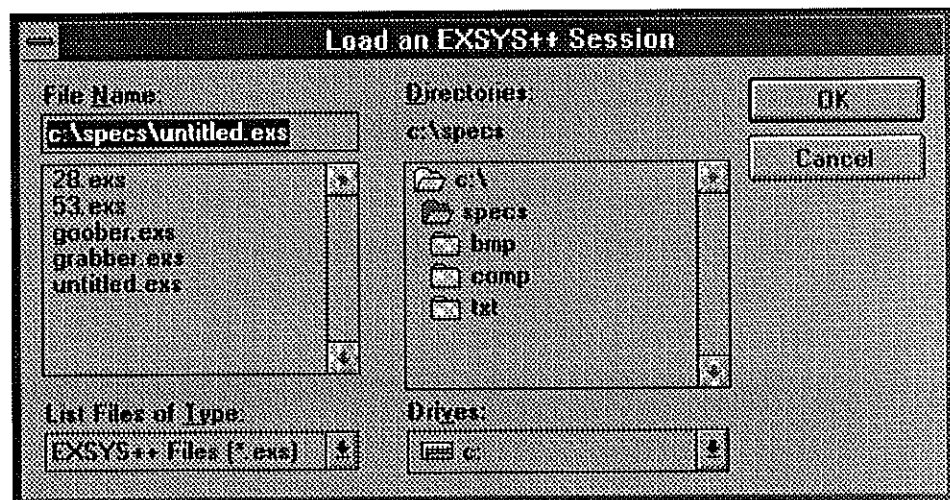


Figure 13. Opening a previously saved session.

2. If the current session is **modified**, but as yet **untitled**, you will be presented with the dialog shown in Figure 14.

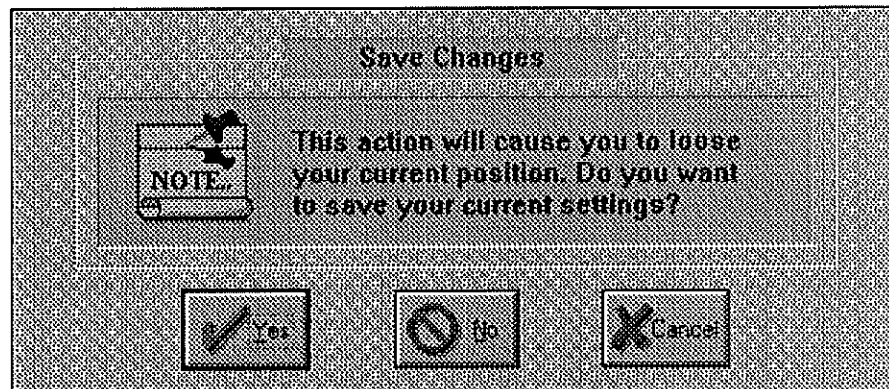


Figure 14. Save Changes Prompt.

- Clicking CANCEL will stop the open operation and you will be returned to your session.
 - Clicking NO will abandon the current session, and prompt you for a session to open (see Figure 13).
 - Clicking YES will first prompt you for a name to save the current session to (see Figure 12). Once the current session is saved, you will be prompted for a session to load (see Figure 13).
3. If your session is **modified**, and **already has a title**, you will be presented with the dialog in Figure 14.
 - Clicking CANCEL will stop the open operation and you will be returned to your session.
 - Clicking NO will abandon the current session, and prompt you for a session to open (see Figure 12).
 - Clicking YES will automatically save the session to the current title, and then prompt you for a session to open (see Figure 13).

Creating A New Session

At any time during a POSAT session you are unsatisfied with the way it is progressing, you can start completely over with a brand new session by clicking the "NEW" button, or choosing FILE | NEW.

When you select FILE | NEW, one of three things will occur:

1. If the current session is **unmodified**, the current session will be abandoned, and you will start over with a new session.
2. If the current session is **modified**, but as yet **untitled**, you will first be asked if you want to save the current session, and what to name it, and then you will start over with a new session.

3. If the current session is **modified**, and **already has a title**, you will first be asked if you want to save the current session. POSAT will automatically save the current session to the current session name if you choose yes, and then will start over with a new session.

Quitting POSAT

To quit POSAT at any time, simply click on the "Exit" button at the bottom of the window, or choose **FILE | CLOSE ALL** menu found at the top of the window. At this time you will be asked if you would like to save the current position as shown in Figure 14, if the session is modified. If the session is modified, but has no title, POSAT will first ask for a title to save the session to, otherwise it will simply save to the current title (if you request it to do so), and end the session.

The Preferences Menu

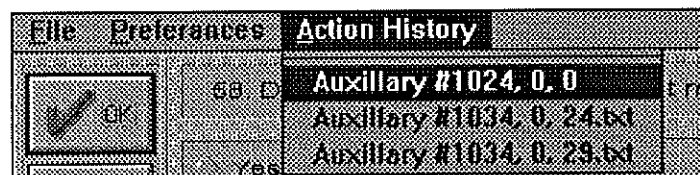
Use System Fonts Only



By selecting this menu, you can force POSAT to use only standard fonts for all output. This is useful for slower machines as it helps speed up the time it takes to go from one question to the next.

The Action History Menu

Action History



The Action History menu contains a history list of the last ten text windows shown. The first item in the list is the oldest text window shown, and the last item is the most recent text shown. The list will be empty if no text windows have been shown.

To view one of the windows listed in the action list, click on the appropriate item, and the text will be displayed. If there is a pre-existing text window, it will be replaced by your selection. You can, however, retrieve the replaced text by going to the history list, and reselecting it.

THE POSAT STATUS BAR

The status bar can be found at the bottom of every exam window. It contains information regarding the current session status, and what must be done mechanically to answer the question. Figure 15 is an example of the status bar.



Figure 15. The POSAT Status Bar

The first field simply informs you that this is the POSAT exam window.

The second field will read either "Modified" or "Unmodified" depending on the current status of the session you are working under. Review the previous topic THE POSAT MENU BAR for definitions and use of this field.

The third field describes what must be done in order to answer a question. For example, for a multiple choice question it would read "Either 'select and click OK' or 'double click' a menu item to answer the question". The text help will vary depending on the type of question posed.

C H A P T E R

5

TUTORIAL & RECOMMENDATION WINDOWS

This chapter explains the use and function of Tutorial and Recommendation windows that appear throughout your use of the POSAT expert system.

Tutorial Windows

Tutorial windows appear under POSAT either by choosing the "Retry" option after answering a question incorrectly, or by clicking the "DONT KNOW" button before answering a question. In either case, the same window appears, but will contain different information depending on what the context was when the window appeared. Figure 16 shows an example Tutorial window.

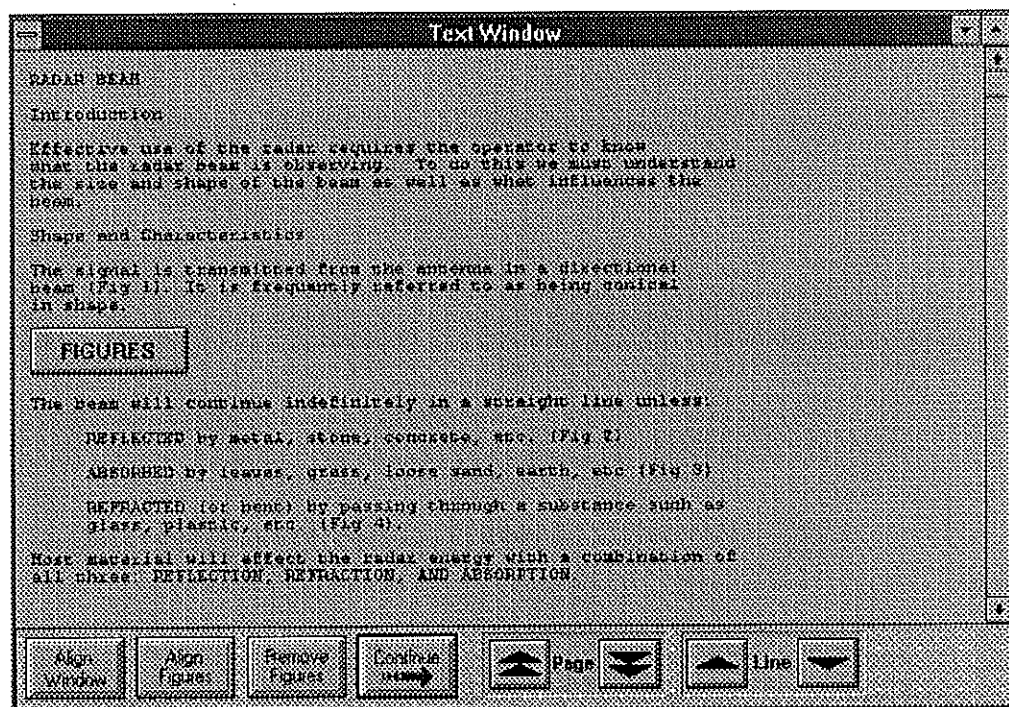


Figure 16. An example Tutorial Window.

A tutorial window has many features that may or may not be used, depending on the type of information being displayed. Tutorial windows can contain bitmaps, "Figure" buttons that, when pressed, will create 1 or more separate mini-windows containing figures, digitized photos, and even digitized movie clips. Figure 16 is an example of a Tutorial window with a FIGURE button embedded inside it. Clicking on the FIGURE button yields the results depicted in Figure 17. You will notice that there are 3 figures aligned along the right side of the window.

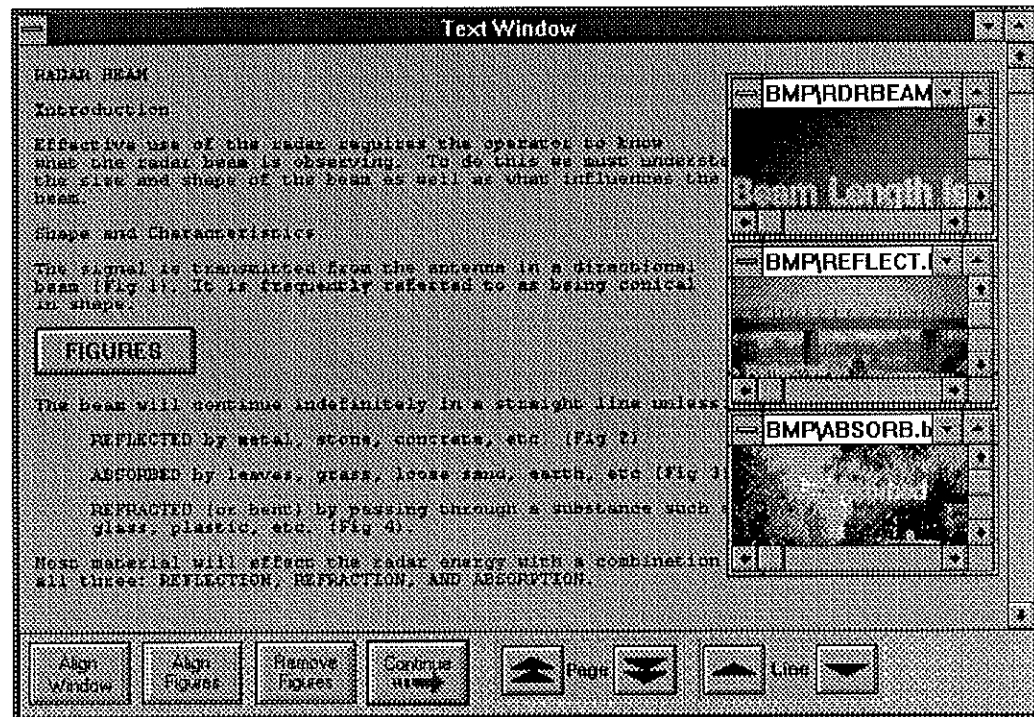


Figure 17. The same tutorial window AFTER the FIGURE button was pressed.

HOT TIP! You can quickly get mini-figure windows to size themselves to the exact size of the figure which they contain. To do this, simply double click on the title bar of the mini-figure window. It will position itself in the middle of the tutorial window and fit itself to the exact size of the figure. Double click the title bar again and it will realign itself along the right side of the tutorial window! Figure 18 shows an example of this:

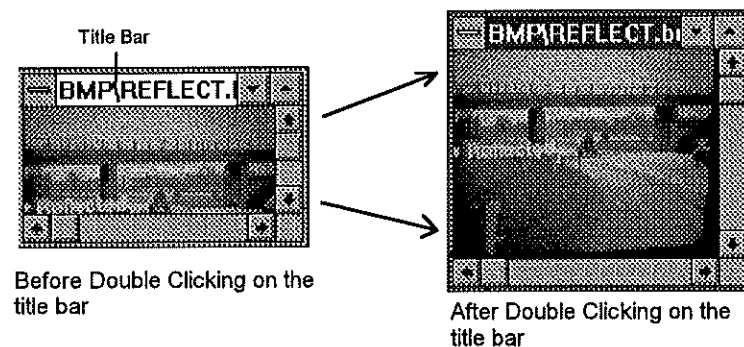
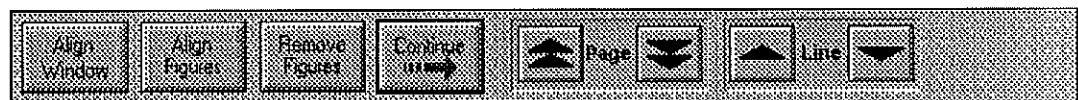


Figure 18. "Sizing-Out" a mini-figure window.

The Control Bar



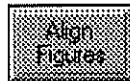
The control bar shown above is design to help you keep a tidy screen area. Often times you will need to move mini-figure windows around, and recess the main window. Once this is done, it is hard to get things back to normal, and is too time consuming to try and do manually. This is when the alignment buttons come in handy.

Align Window button:



Use the Align Window button to realign the main window to its original size.

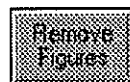
Align Figures and FIGURES buttons:



The Align Figures is used in conjunction with the FIGURES button to realign mini-figure windows back to the right side of the tutorial window. If a FIGURES button is present in the text, pressing it will create mini-figure windows along the right side of the tutorial text window (see Figure 17). You can adjust these mini-windows just as you would a normal window. If you want them realigned, simply click the Align Figures button.

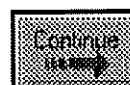
The FIGURES button can be pressed as many times as you want. If you accidentally close one of the mini-figures, you can get it back by pressing the FIGURES button again.

Remove Figures button:



Use the Remove Figures button to quickly remove all mini-figures from the tutorial window. This is much quicker than closing each one with the mouse. Once all the mini-figures have disappeared, you can get them back by pressing the FIGURES window again.

Continue button:




Use the Continue button to close the tutorial window and continue with the exam. You will not be able to continue with the exam until you close the tutorial text window.

Page Up and Page Down, Line Up and Line Down buttons:



Click on the page up and down buttons to cause the text to scroll up or down one page.

Click on the line up and down buttons to cause the text to scroll up or down one line.

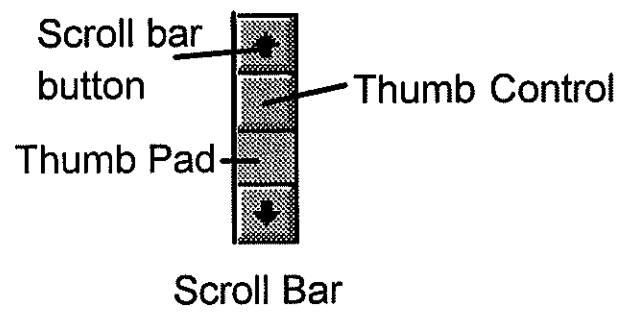
TIP!  In addition to using the buttons described above there are several other means by which you can control the movement of text in the tutorial window:

- **Auto Scroll.** Auto-scrolling is a handy mechanism to scroll mini-figure windows, and tutorial windows alike. Here is how you auto-scroll:

1. Click the left mouse button anywhere inside the tutorial window and **HOLD IT DOWN**.
2. Still holding the left mouse button down, **DRAG** the mouse pointer outside the window in the direction you wish to scroll.

The text will start scrolling automatically! Better yet, the further you drag the mouse pointer outside the window, the faster the text scrolls! This is a great way to move figures around within mini-figure windows.

- Using the Page Up and Page Down keys on your keyboard
- Using the keyboard cursor keys to move up or down one line, and left or right five alpha characters.
- Clicking on the scroll bar buttons on the right side of the tutorial window.
- Clicking on the thumb pad on the scroll bar
- Clicking and dragging the thumb control on the scroll bar.



C H A P T E R

6

SCORING

This chapter explains how POSAT scores the training exam, and how to read the score "detail" - a text file containing exam statistics.

How POSAT tracks your answers

POSAT tracks a certain set of data for each question. POSAT stores the following for each question asked.

- How many times it was asked
- How many times it was answered correctly.
- How many times it was answered incorrectly.
- How many times it was retried.

Because POSAT allows you to backup, and retry questions, it is possible to have encountered a question more than once. POSAT only uses the first time the question was asked, however, for its scoring mechanism in the score dialog shown in Figure 19.

How POSAT determines your final score

When you prematurely exit an exam, or upon completion of an exam, POSAT will display the score dialog as pictured in Figure 19.

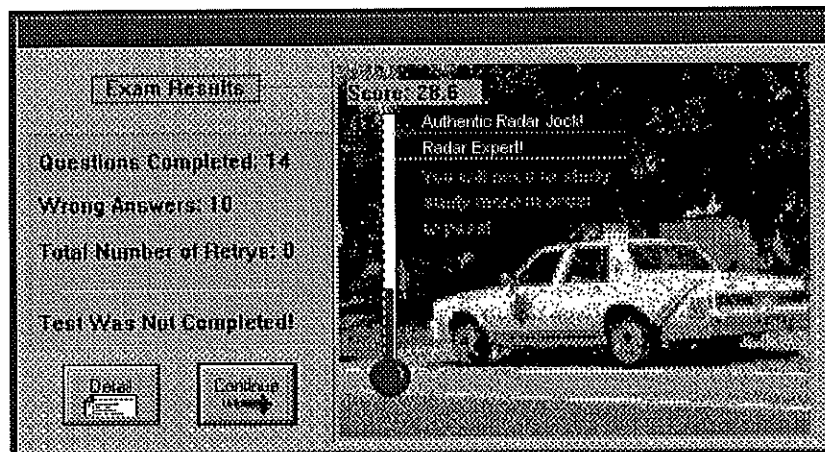


Figure 19. The Score Dialog.

The Score dialog displays the number of question completed, the number of wrong answers, and the total number of retries.

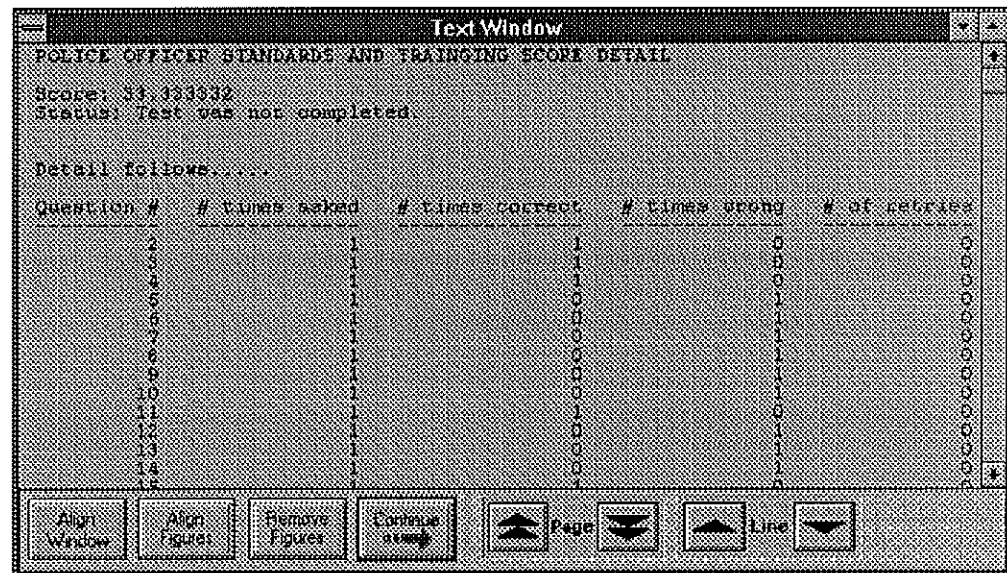
NOTE!

It is important to realize that these numbers represent the questions as if they were asked only once. In other words, even though you may have retried a question 60 times, it will only be counted as asked ONCE. FURTHERMORE, if you answered it wrong the FIRST time, this will be how POSAT records the answer, regardless if you retried the question and got it right the second time. This is so you have an accurate idea of how you did the first time each question was asked.

If you failed to complete the exam, the Score dialog will tell you so. It will also tell you if you've passed or failed when you've completed an exam.

The SCORE Detail

Although POSAT initially shows how you faired the first time each question was asked, it also records the exact number of retries, correct and incorrect answers, and other data for each question. To view this history, click on the DETAIL button. You will be presented with an Information window as shown in Figure 20. When you see the file yourself the file contents will be self explanatory.



Question #	# times asked	# times correct	# times wrong	# of retries
2	1	1	0	0
3	1	1	0	0
4	1	1	0	0
5	1	0	1	0
6	1	0	1	0
7	1	0	1	0
8	1	0	1	0
9	1	0	1	0
10	1	0	1	0
11	1	1	0	0
12	1	0	1	0
13	1	0	1	0
14	1	0	1	0
15	1	0	1	0

Figure 20. The Score Detail Information Window.

When you are through viewing the detail, clicking on the CONTINUE button returns you to the score dialog.

When you are through viewing your score, clicking on the CONTINUE button on the score dialog will return you to the Main Menu, where you can restart the exam if you wish.

C H A P T E R

7

CREATING A PROGRESS LOG

This chapter explains how to use the COMMENT button feature in conjunction with Microsoft Word to create a log of your progress.

The COMMENT Button

The COMMENT button is an alternative to the OK button. In order to create a log of the questions asked, and how you answered them, you must click on the COMMENT button instead of double clicking the answer, or single clicking the answer and choosing OK.

When you press the comment button, POSAT will automatically create a DDE link (Dynamic Data Exchange) to the Microsoft Word word processor and transmit the question and the answer you chose to the application, and will then give you an opportunity to enter comments.

Note: You MUST have Microsoft Word pre-installed on your system to utilize this feature.

To have your question and answer placed in the document, follow these steps.

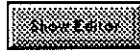
1. Read the question, and select an answer by **single clicking** on it. DO NOT double click the answer! We do not want to continue to the next question until this question and answer have been logged...
2. Now that your answer is highlighted, click on the Comment button.
3. Wait while POSAT creates the DDE link to the word processing application. If this is the first time you have clicked the Comment button, the word processing application will have to be started first. POSAT takes care of this automatically.
4. You will see the Microsoft Word application come to the foreground, and the question, answer, and a "comments" section automatically typed into the document. Once POSAT has transmitted the data, it will proceed to the next question in the background. Microsoft Word will now be active and waiting for you to type in a comment.
5. When finished entering your comments, hit return, and click somewhere on the POSAT application to make it active. The instance POSAT becomes active, Microsoft Word will disappear behind the exam window. You can get the word processor back by clicking on the "Show Editor" button. Please refer to the TIP below for good information on using the editor.

HOT TIP!

If you answered the question incorrectly when using the Comment button, the Retry dialog will appear, and Microsoft Word will be hidden. In order to type in your comments you will need to click on the "Retry" or "Continue" buttons to make this

dialog disappear. If you click on the "Retry" button, you will need to close the tutorial window as well.

When you are brought back to the exam window, you will now notice a small button in the lower left as shown here:



By clicking on this button, you can bring the Microsoft Word application to the forefront at any time, eliminated the need for you to minimize the exam window and search for the word processor. You can then enter your comments, and continue with the next question.

That's all there is to it. You can enter as many questions, and repeat them in the log as many times as you wish.

USEFUL WINDOWS UTILITIES

Microsoft Windows comes with utilities that may be used to supplement POSAT. Perhaps the most useful are the calculator, word processor, **Write**, and the bit map editing utility, **Paintbrush**. If you do not have Microsoft Word, or Word Perfect (meaning you cannot utilize the "comment" button feature of POSAT), you can use the **Write** utility to record your ideas and make notes during a POSAT session. You can use the **Paintbrush** utility to capture, edit, and save screen images from POSAT in order to embed them into your document at a later time.

The Calculator

The calculator application is automatically started by POSAT, and placed at the bottom of the screen in iconized form. The calculator is particularly useful for exam questions that involve mathematical calculations. To use the calculator, simply double click on its icon, and it will become active.

Run Write and Paintbrush

Before running POSAT, run **Write** and **Paintbrush** from the "Accessories" window in the Program Manager. Minimize the program windows and they will appear as icons at the bottom of the screen. You may activate **Write** or **Paintbrush** at any time during a POSAT session by double clicking on the icon.

Run the POSAT program. The **Write** and **Paintbrush** icons remain at the bottom of the screen below the exam window. If a dialog window obscures the icons, move the dialog window by dragging the top bar, as you would any MS Windows window.

Record Notes

To record notes into a **Write** document, simply double click on the **Write** icon and position the insertion point. You may minimize and maximize the **Write** window as many times as needed during a POSAT session. Save your document using the "File" "Save" menu.

You are not limited to the **Write** word processor. Any MS Windows compatible word processor (i.e. WORD for Windows or Word Perfect for Windows) will work in a similar fashion.

Capture A Screen Image

When you wish to capture an image (bit map) of the screen, simply press the "Print Screen" key. This will send a copy of the screen image to the MS Windows clipboard. You may transfer this image to **Paintbrush** by:

- 1) Double clicking on the **Paintbrush** icon.

- 2) Maximize the **Paintbrush** window (button at the upper right of window),
- 3) From the **Paintbrush** "Edit" menu, select "Paste."

The screen image may be larger than the workspace available in **Paintbrush**. You can increase the workspace by turning off the menus at the left and bottom edges of the window. To do this, select "View" from the main menu bar. Click on "Tools and Line size" to remove the menu at the left of the window. Click on "Palette" to remove the palette at the bottom of the screen.

You can edit the image with the tools available in **Paintbrush** and save selected areas to a bit map file for use later. Or you can "Cut" a selected area to the clipboard, and transfer it immediately to your word processor.