

Apollo 13

A Race Against Time



Arts & Letters Corporation

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Welcome to Apollo 13

Apollo 13 is a multimedia recreation of what has been called NASA's finest hour, when thousands of NASA employees and contractors worked nonstop against incredible odds to bring home the crew of a crippled spacecraft. For a tour of the features of *Apollo 13*, click on the Encyclopedia button, then on the Appendix button. You will find a topic entitled "A Quick Tour of the Highlights of *Apollo 13*." Click on the titles in that topic to display full screen images, animated sequences, and subjects you might otherwise overlook.

Among those subjects are Air-to-Ground Transcript; Certificate of Appreciation; The Cortright Report; Flight Directors Loop; Foundations of Flight Control; Locating the Problem; Mission Control Directorate Emblem; Mission Operations Report; MOCR and SSR Organizational Structure; Presidential Medal of Freedom; Second by Second; The Way the Data Played; We Don't Have TM Funnies; and Which Way to the MOCR.

To start *Apollo 13*, click on the *Apollo 13* icon in the Windows Program Manager. The title screen of *Apollo 13* is accompanied by a dramatic condensation of the voices of the flight controllers in Mission Control and the astronauts of *Apollo 13* during the moments before and after the accident occurred. (After you have heard this presentation once, you can skip it by



Title Screen of *Apollo 13*

clicking in the window as soon as the opening screen appears, or play it in its entirety from the Audio Gallery introduction.)

Before You Continue

Before moving on in *Apollo 13*, there are a few things you should know about the features and capabilities of the program.

Cursors

Arts & Letters Apollo 13 utilizes three cursor-shapes: the usual arrow-shaped pointer, a pointing finger, and an upraised hand. You use the first two cursors to select as you would in any Windows program.



The arrow changes to the pointing finger to alert you that you are passing over a “hot-spot” on a photograph or a key word highlighted in green. When a hot spot is indicated (by the pointing finger), click the left mouse button to see an explanatory popup.

When you pause a slide show or video by clicking the right mouse button, the cursor changes to the upraised hand, indicating “Stop.” When you click again to release the presentation, the pointer returns.

Mouse Buttons

In *Apollo 13*, the **left mouse button** is used for selection: “clicking” on navigation buttons and hot spots.

The **right mouse button** has two functions. When you are watching a video or slide show, the right mouse button is used to pause the presentation. To resume play, click the right mouse button again. (When the slide show controls are not displayed, clicking the left mouse button cancels the presentation. Otherwise, click on the “X” button to exit.)

The second function of the right mouse button is to display a content menu. Place the cursor within the console screen and click the right mouse button.

Content Menus

When you are in the **Encyclopedia** section of *Apollo 13* you can click your **right mouse button** to see the content menu shown below. The content menu will remain on-screen until you click the mouse somewhere outside the content menu.



To select an option on the menu, click on it. (If an option is grayed out, it is not selectable at this point in the program.)

A smaller content menu appears when you are within a slide show. (See “Slide Show and Video Controls,” below.)

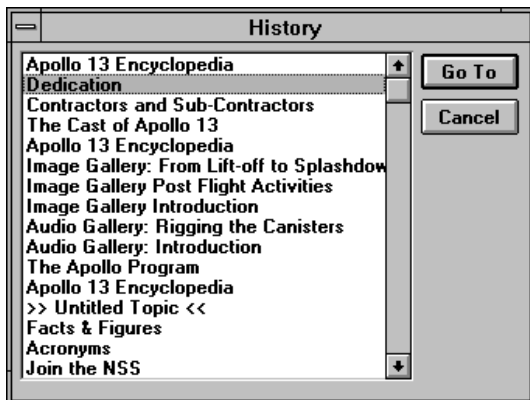
Annotate This Topic

“Annotate this topic” allows you to annotate many of the database topics. Topics that you annotate are marked with a green paper clip in the upper left-hand corner of the topic. To view your notes, click on the green paper clip icon.

For example, if you wish to include an additional historical note to the entry for James Lovell in “The Crew of Apollo 13,” click on the right mouse button to display an options menu and use the left mouse button to click on “Annotate this topic.” Type your notes and click on “Save.” Notice that you can Copy, Paste, and Delete any annotations you have added.

History

“History” shows you a list of the last 40 topics you have looked at. You can use it to go directly to a topic by clicking on a topic title in the list. (The Back button takes you backwards one step at a time and is useful if the topic you want is a few steps in the past.)

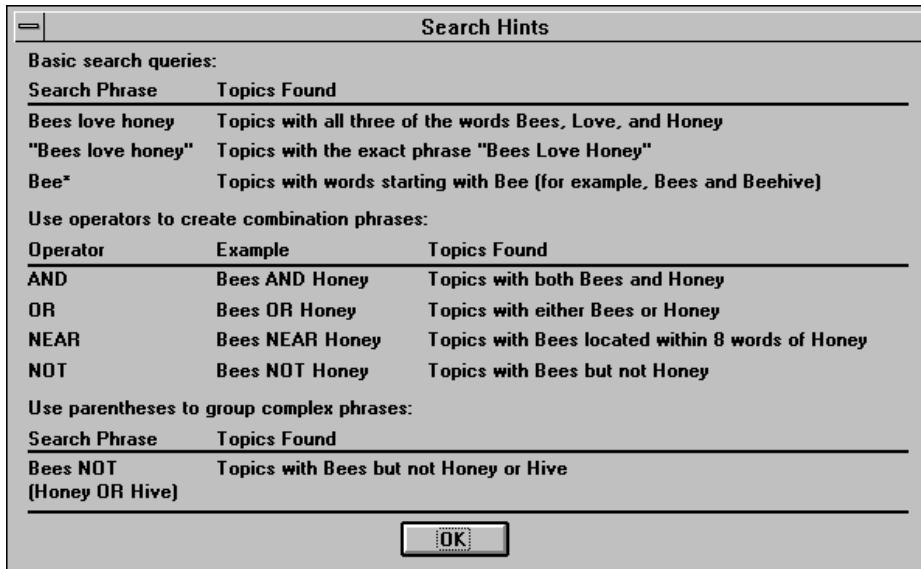


Search All Topics

“Search all topics” opens the powerful *Apollo 13* search engine with “All topics” selected. You can narrow the search to “Selected Topic Groups” or “Current Topic Only.”



The Hints button is very useful in explaining how the search engine works and how to refine your search parameters:



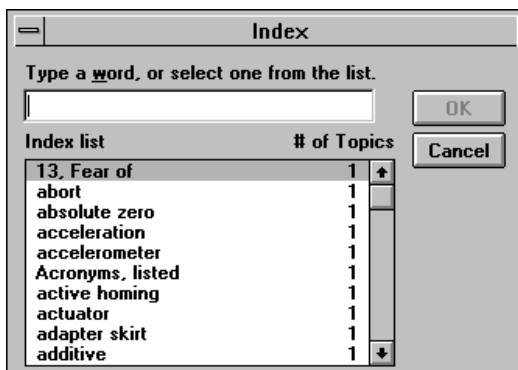
Copy This Text to the Clipboard

“Copy this text to the clipboard” copies the text within a current topic to the clipboard *except when you are in a topic that contains too much text for the clipboard to be useful.*

The “Copy” option changes to **Open Text in Write** when you are in the “Air-to-Ground” transcripts, “Mission Operations Report,” or “Flight Director’s Loop Transcript.” If you choose this option, Windows Write is launched to open a Write file containing the text in the topic. You can save this file and import it into another text application, such as Microsoft Word or Adobe PageMaker.

Keyword Index

The “Keyword Index” allows you to scroll through a list of topics or type an entry.



Click on a subject to highlight the entry. Click on the OK button or double-click on a topic in the list to display a window of information about the subject.

Print

“Print Setup” and “Print this text” allow you to control the printing functions of *Apollo 13*, to set your target printer and its options and to print the *Apollo 13* topic.

The printing options are unavailable when you are in the “Air-to-Ground” transcripts, “Mission Operations Report,” or “Flight Director’s Loop Transcript.” In these topics there

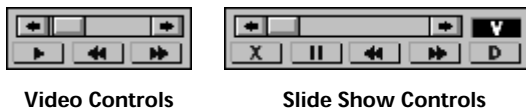
is too much text for this direct printing operation. (See “Copy This Text to the Clipboard,” on page 6.)

Help on Apollo 13

“Help on Apollo 13” opens the Help menu, from which you can choose the appropriate help topic. You can also press F1 at any time to open Help.

Slide Show and Video Controls

For each of the video and slide show presentations a control panel appears either on the console or, if the presentation is full screen, at the bottom of the screen. Use these panels to control the video or slide show.



On both panels the slider bars advance or replay the action, and the two arrow buttons at either end of each slider bar advance or back up the action one frame at a time. The two “double-arrow” buttons jump ahead or backwards several frames at a time.

On the Video Control, the lower left button pauses and resumes play. (Click on the Stop Video button on the console to terminate the video.)

On the Slide Show Control, the button labeled “X” terminates the presentation; the button labeled “||” pauses it; “V” allows you to toggle between video and slide show modes; and the button labeled “D” allows you to hide the controls. You can also hide the controls and pause the presentation by pressing and holding the right mouse button, which displays this content menu:



Mission Operations and Controller Console

When the dramatic presentation of the opening screen is finished (or you wish to move forward), click anywhere in the picture. The title screen dissolves to a simulation of the Mission Operations Control Room (MOCR), viewed from a MOCR console, or work station. This simulation is accurate but generalized; that is, it could represent any console but is an exact representation of none in particular.



Mission Operations and Control Room (MOCR) and Flight Controller Console

In the background, beyond the console, are the three screens of MOCR. The screen on the left is showing the projected TV image of a recovery vessel; the center screen depicts Apollo 13's trajectory; and the screen on the right shows the insignia of the Apollo 13 mission. (The center screen is an accurate representation of Apollo 13's trajectory terminating in splashdown. The "wavy" sine-curves that are so familiar to viewers of the Space Shuttle missions only show up on *orbital* flights.)

Along the right side of the console are five buttons that launch the main features of *Apollo 13*: Encyclopedia, Lovell Interview, Highlights, Epic Journey, and From Here To The Exit button, of course, aborts the program. Above the right CRT (cathode ray tube, or video screen) is a bank of buttons simulating the "event indicators" on the flight controller's console. Click on each of them to see a full-screen picture and hear a description of its subject.

From Here To ...

Click on the button labeled "From Here To ..." to view a video presentation on the center projection screen that shows how the Earth and Moon interact as they rotate about their axes and each other. It illustrates the complexities of traveling through space in three dimensions.



Epic Journey

Highlights

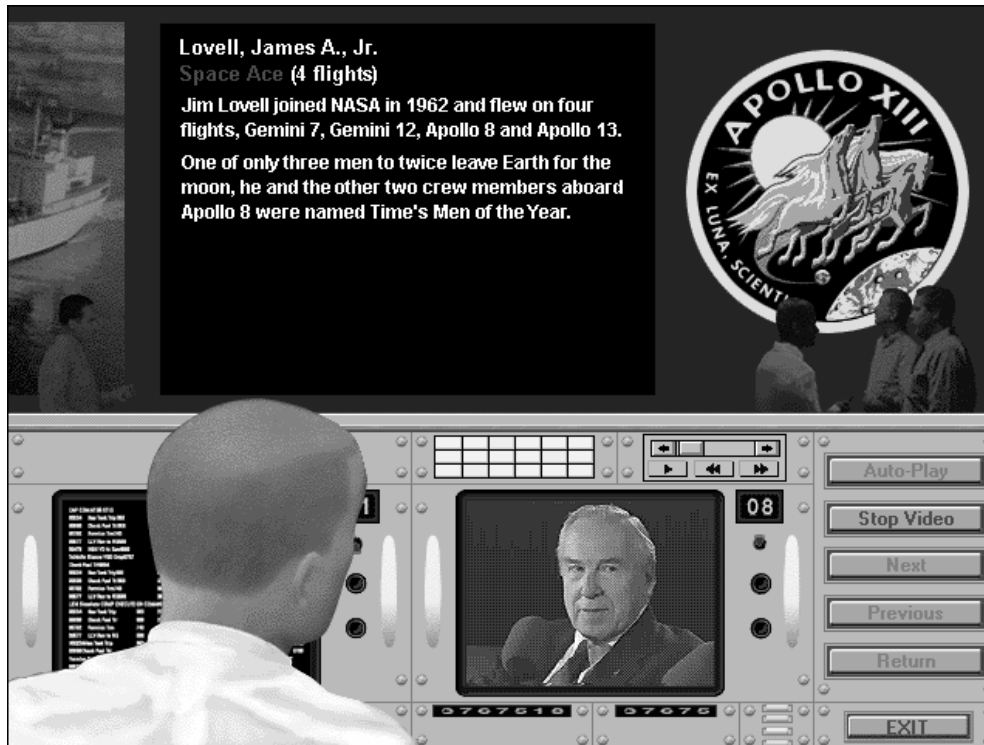
“Highlights” details the Apollo 13 mission in official ground-to-air recordings and photographs. Because of the accident and the hearings that followed, every aspect of the flight was examined in detail and in most cases, the records have been preserved. Much of what you see in Highlights is from private collections, and because of the generosity network of individuals committed to preserving the heritage of Apollo, this encyclopedia contains many unusual items and makes them readily available for future generations.

Epic Journey

“Epic Journey” presents the mission using narrated, three-dimensional computer animation and NASA video footage. Video controls are not available in this topic; click on Stop Video to terminate the video.

Lovell Interview

“Lovell Interview” presents a video interview of the commander of the Apollo 13 mission and author of *Lost Moon* (source of the popular 1995 summer movie, *Apollo 13*). When you click on Lovell Interview, the center MOCR projection screen displays a biographical



Lovell Interview (Video Playing)

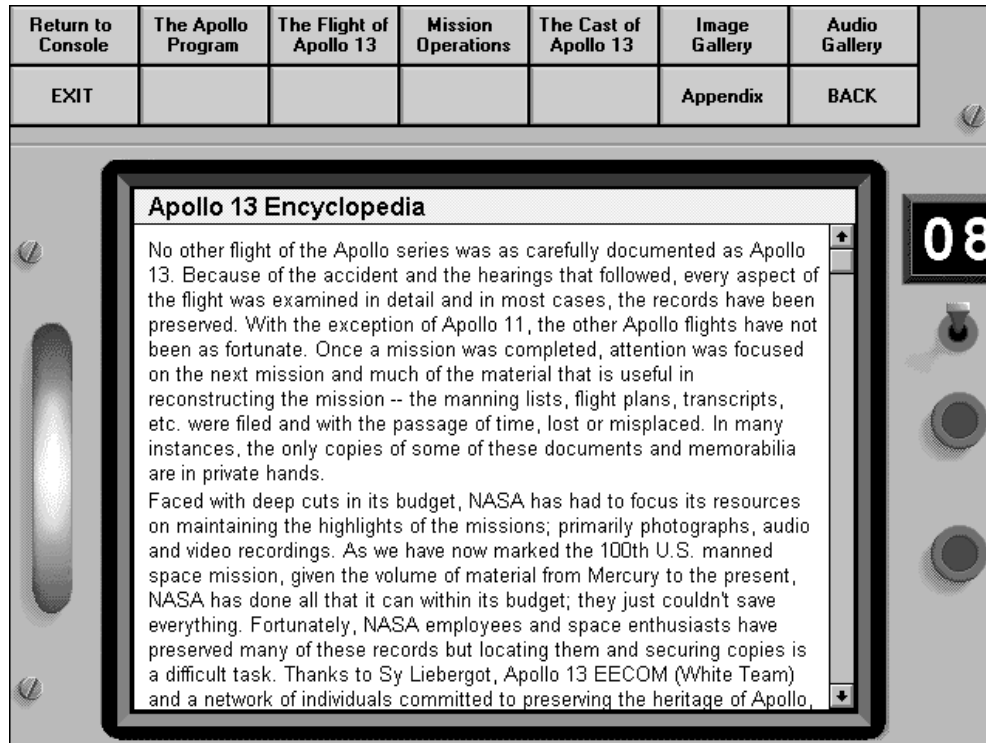
note on Commander Lovell, and the CRT in the console displays the first interview question. Click on the Play Video button to see Jim Lovell and hear his answer. When Lovell completes his answer, his image will fade and be replaced in the CRT with the next interview question. Use Auto-Play to cycle through the interview automatically.

Encyclopedia

When you click on the Encyclopedia button, the Mission Operations and Control Room Console screen dissolves into the close-up of a mission control console. Above the CRT is a double row of navigation buttons. These buttons identify the topics available within the Encyclopedia portion of *Apollo 13*.

Navigating through the Encyclopedia

The buttons “depress” when you click on them with the left mouse button. Seven navigation buttons are colored white to indicate that you are in a group of related topics. When you click on a white button, its color will change to yellow, to indicate the topic



Apollo 13 Encyclopedia

seen on the console screen. An introduction to the topic appears on the console screen and the four buttons below the upper row are redefined to access subjects within the topics.

When you click on a yellow button, it will change it back to white and return you to the topic's introduction. Note that the buttons changes are automatic; even if you use search to jump to a specific topic, the buttons will "light up" appropriately.

Return to Console	The Apollo Program	The Flight of Apollo 13	Mission Operations	The Cast of Apollo 13	Image Gallery	Audio Gallery
EXIT	The Crew of Apollo 13	Apollo Space Vehicle	Air-to-Ground Transcript	What Went Wrong	Appendix	BACK

To go back to the previous topic, click on Back. The Back button takes you backwards, retracing your steps one screen at a time. If you are in a topic and use Index or Search to look up a word or phrase, click on Back to return to the place you began. If, however, you have jumped around inside a topic and want to quickly go back to the Mission Operations and Control Room, click on Return to Console.

Topics Offered by the Apollo 13 Encyclopedia

The Apollo Program

"The Apollo Program" presents an overview of the entire Apollo program, from its inception to Apollo 17.

The Flight of Apollo 13

“The Flight of Apollo 13” narrates the events of the fateful flight, from lift-off to splashdown. Sub topics include:

- The Crew of Apollo 13 — Biographical sketches and photos
- Apollo Space Vehicle — A tour from top to bottom; from Command Module to Saturn V first stage
- Air-to-Ground Transcript — A transcript of the complete air-to-ground communications between Apollo 13 and Mission Control, from 00:00:02 to 142:55:12 Ground Elapsed Time (GET)
- What Went Wrong — The findings, determinations, and recommendations of Apollo 13 Review Board.
- Locating the Problem — A narrated computer-graphics video that shows clearly and simply what caused the oxygen tank explosion.

Mission Operations

“Mission Operations” presents the “Earthbound” portion of the Apollo 13 spacecraft. Sub topics include:

- The MOCR — A detailed look at the nerve center of Mission Control, the room where the real-time decisions were made
- The Flight Controllers — The history of flight control, from Mercury through Apollo, with a look at the friendly rivalries between the different organizations
- Controller Console — A closer look at the typical console, its controls and functions. This topic includes a slide presentation, “The Way the Data Played,” that features reproductions of the actual EECOM screen displays as the disaster struck.
- Engineering Support — A visit to the “back rooms” where flight controllers and contractor representatives supported the MOCR.

The Cast of Apollo 13

“The Cast of Apollo 13” presents the individuals and companies that were associated with the Apollo 13 mission. As many as we could identify were included. (See “We Need Your Help” in the introduction to the Appendix.) Sub topics include:

- Dedication — A statement dedicating the Apollo 13 CD-ROM to the people who brought the Apollo 13 astronauts home
- Individuals — A list of those who participated in the mission
- Contractors — A listing of the companies that built the Apollo/Saturn spacecraft
- Credits — A special thanks to those who made the *Apollo 13* CD-ROM possible.

Image Gallery

“Image Gallery” presents the Apollo 13 story in full-screen pictures, both actual photographs and artistic recreations. It includes the sub topics:

- Lift-off to Splashdown — Begins with pictures of prelaunch activities and ends with the astronauts aboard the U.S.S. Iwo Jima
- Mission Control — Shows the rescue operations from the ground
- Inside the Spacecraft — Takes you on a tour of the Apollo spacecraft, with engineering drawings and photographs
- Postflight Activities — Shows you how the astronauts were received after their harrowing mission.

Audio Gallery

“Audio Gallery” presents hours of remastered audio recordings converted from magnetic tape provided by NASA. Topics include:

- Audio Highlights — Contains such audio excerpts as the countdown and launch, the infamous cryo-stir, and the amazement of the crew when they finally saw the damage done to their spacecraft
- EECOM Audio — Presents recordings from the EECOM loop in Mission Control during the first hours of the disaster
- Rigging the Canisters — Presents the moments during which the astronauts, following instructions from Mission Control, built the “contraption” that saved their lives.

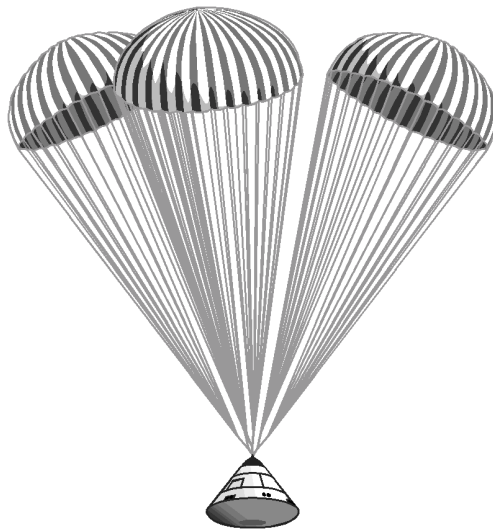
Appendix

Clicking on the Appendix button gives you access to several topics of interest that supplement those in the Encyclopedia:

Return to Encyclopedia	The National Space Society	Facts & Figures	Triskaidecaphobia	For Further Reading	Acronyms	Glossary
EXIT					Appendix	BACK

- The National Space Society — Information on one of the most effective organizations promoting space exploration; mission statement; addresses of local chapters; and how to join
- Quotes, Facts & Figures — Interesting trivia on the subject of Apollo in particular and space exploration in general
- Triskaidecaphobia — A listing of all the thirteens that plagued the third manned mission to the Moon
- For Further Reading — A bibliography of information sources on the Apollo program
- Acronyms — Definitions of the common acronyms employed by NASA and the astronauts
- Glossary — An alphabetical listing of terms dealing with space travel in general and project Apollo in particular.

To return to the Encyclopedia, click on the Return to Encyclopedia button.



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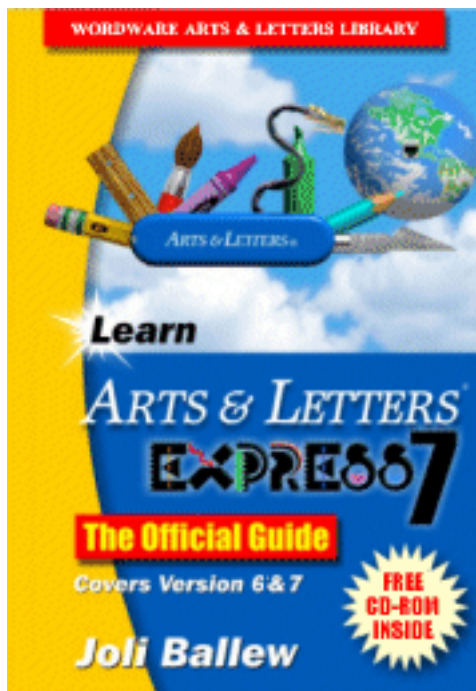
The Official Guide

Covers Version 6 & 7

Joli Ballew

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The most comprehensive book about Arts & Letters EXPRESS ever written



This book is written for everyone, and is a great book for Arts & Letters enthusiasts both new and old. It will prove invaluable to all of you - for those of you who have been using the program since the mid 1980's, as well as those who just joined on with the latest version.

Easy to read and understand, the Official Guide to Arts & Letters contains "textbook" elements so it can be adapted for use by schools and curriculum developers.

Every aspect of Arts & Letters is included; every tool is detailed, every menu is examined, and countless applications of the tools are offered.

Included in the book are step-by-step instructions for performing all tasks and using all of the features of Arts & Letters Express. This includes items not found in the

Help files, such as how to add fonts and clip art from third party applications, and how to import and export images between applications.

There is a CD-ROM with ideas for teachers, projects for students, concepts for flyers, company documents, announcements, and much more. The reader can use the art files as templates for creating their own work.

So for all of you out there who've been using Arts & Letters for years and years, this book is for you; you'll learn how to use the tools you have yet to try or don't quite understand. For those of you that are new to Arts & Letters - what a great time and place for you to get on board!

About the Author

Joli Ballew is a full-time writer and graphic artist and resides in the Dallas area. She has also worked as an educational content consultant, a network administrator, a high school algebra teacher, and a college instructor. After graduating from the Performing Arts Magnet in Dallas where she studied music and the arts, she attended college at the University of Texas at Arlington, and graduated with a B.A. in Mathematics and a minor in English.

Currently Joli has three books available: *Windows 2000 Professional Test Yourself* from Syngress Media, and *Windows 2000 Server On Site and Windows XP Professional - The Ultimate User's Guide* both published by Paraglyph Press. Joli is working on two new books to be published in late 2002; *The Complete Idiot's Guide to Photoshop Elements* by Alpha books (co-authored with Greg Holden) and *A Simple Guide to Photoshop 7.0*, published by Pearson Education.

About the Technical Editor

Sam Andrew, Technical Editor for the book, combines real world experience in graphics with an understanding of education and curriculum development.

Sam is the Curriculum Manager for Technology Education for Highlands High School in Pennsylvania and was instrumental in developing their Computer Graphic Design Specialist Program replacing a traditional Industrial Arts program. Highlands now has articulation agreements with six colleges and technical schools to which Highland graduates are able to go with advanced credit. Arts & Letters EXPRESS has been an integral part of the Highlands' curriculum for the past ten years. Sam is currently developing a Computer Graphic Design class for adults in the community.

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